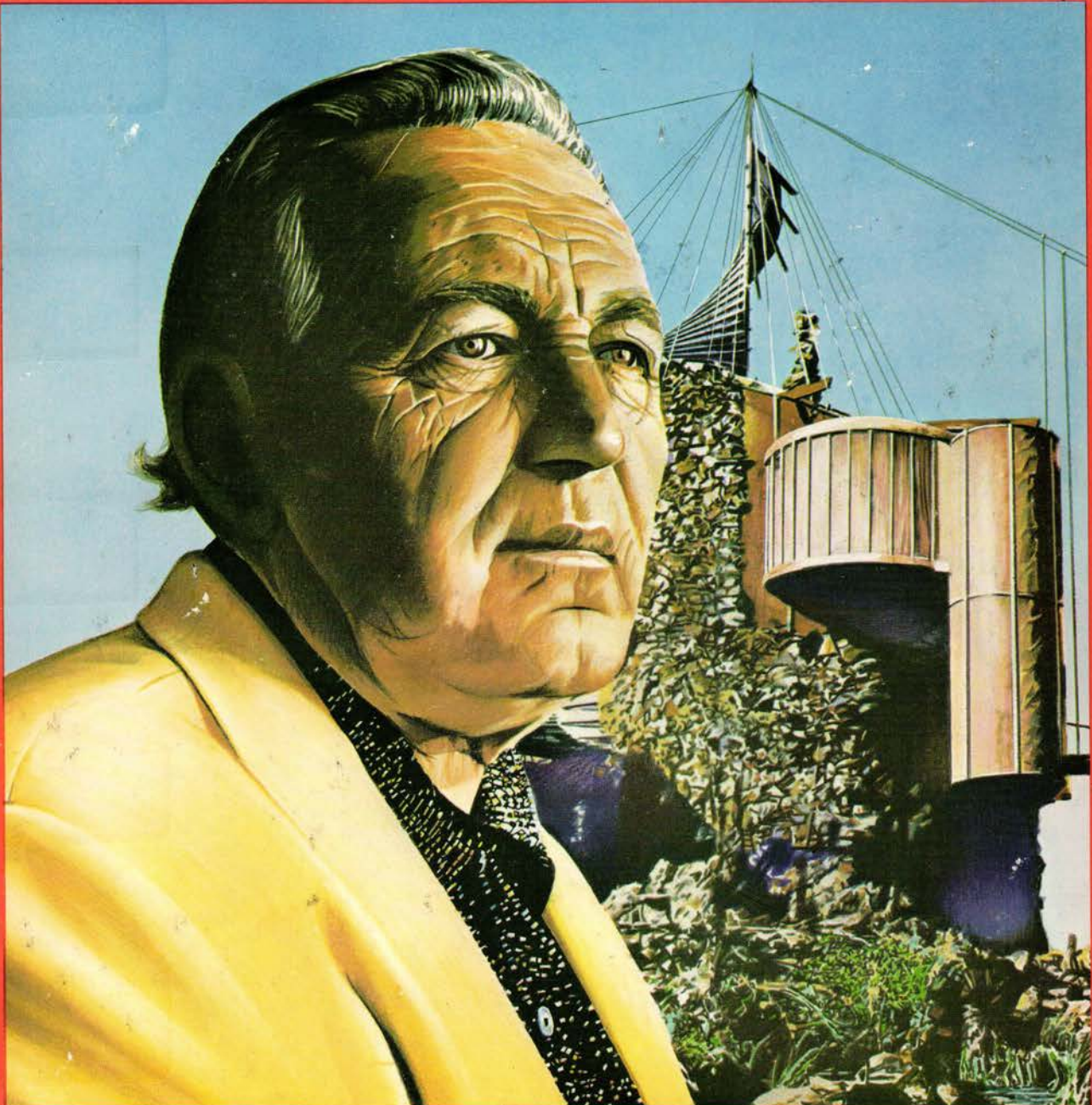


Architectural Design
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BRUCE GOFF

Front cover: Illustration by Andrew Holmes



Above: Second Barby House, 1974,
looking over the major interior space.

Left: Dace House, 1964.



CONTENTS

548 Letters

549 Round-up

The Editor welcomes short, concise contributions to be published at his discretion. Submissions should be accompanied by a black and white photograph wherever possible; they should be of interest to an international readership; and, if announcing an event, should be sent to *AD* with at least four months notice. The Editor would particularly like to see any recently completed buildings that might be of interest to readers; and to be informed as swiftly as possible of any competitions.

553 Books

Team 10: a selected bibliography
Robert Orr reviews *Bernard Maybeck Artisan, Architect, Artist*

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AD PROFILES 16: BRUCE GOFF

Guest Editors John Sergeant and Stephen Mooring write in detail on Bruce Goff, the American architect whose work is often compared to that of Frank Lloyd Wright, and who is considered to be one of the foremost exponents of Organic architecture. Many of his houses and buildings are examined in detail, with written contributions from some of his clients. Other articles include an analysis of his geometry ornament, and of the relationship of his work to popular American taste cultures. David De Long and Jeffrey Cook also contribute to the issue. There is a special section devoted to Bruce Goff's working drawings.



559 Buildings in *AD*

'Baird, Cuthbert, Mitchell: Low Energy Projects and Energy Conservation in Australia'

Buildings from Victoria, Australia, using energy conserving techniques.

570 Review

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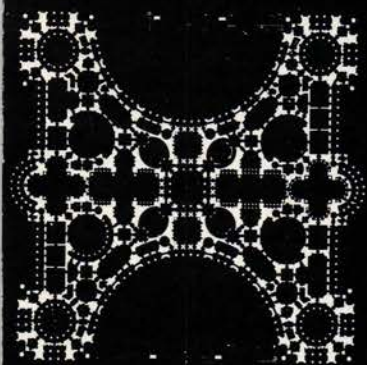
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The Editor welcomes unsolicited manuscripts and other material for publication but cannot take responsibility for their return though every care will be taken.

Next in AD

L'ECOLE DES BEAUX-ARTS



The next issue of *AD* explores the history of the Ecole des Beaux-Arts and its influence on contemporary architecture. This double issue of *AD* is Guest Edited by Robin Middleton, who organised a week-long conference at the Architectural Association in London on the subject. The essays to be published in this issue have been edited from the popular papers delivered during this conference, and include those given by Tony Vidler, Alan Colquhoun, Leon Krier, Robert Venturi, Denise Scott Brown, Peter Smithson, James Stirling and Henry Russell Hitchcock. This issue also includes an introduction by Robin Middleton, and an extensive review by him of the book *L'Ecole Des Beaux-Arts*, edited by Arthur Drexler for the Museum of Modern Art's Beaux-Arts exhibition held in 1977.

LETTERS

Surrealism Critique

Sir: The remarkable articles collected in the issue of *AD* on surrealism and architecture have a 'negative' common denominator: Veseley, Frampton, Knight, Tschumi, Inch, Melly and Cardinal all fail to consider the possibility of including contemporary architecture in their analyses. They go no further than Kiesler. Koolhaas was the only one to penetrate part of Le Corbusier's work.

It would have been interesting to see these authors risk parallels, comparisons, or criticisms and go even further (at least as far as France is concerned – for almost all grant France a kind of 'surrealist exclusivity'), to take into consideration architecture such as that of Couelle, Aillaud, Bruyere and Parent, to mention only the ones who, through their work and age, have become 'classics'.

Indeed, Aillaud is a surrealist: mainly at La Grande Borne, but also in his own world, rue du Dragon. Couelle too is a surrealist, through his specific, almost undrawn, approach, in Castelarras and in Sardinia. Bruyere lives his 'daily surrealism' through his writings and drawings, one of which, 'The Egg', presented at the competition for the Beaubourg plateau, constitutes a kind of issue. And finally, Claude Parent, who uses surrealism as a 'shop of symbols' from which he selects whatever he wishes to express his convictions on 'the oblique'. But it is mostly in the drawings of the oblique city that Parent has developed around this theme that 'pure' surrealism emerges from each line. And this surrealism, unlike that of the previously mentioned architects, is not 'formal' but is engendered by the 'scale' that Parent gives to his drawings. If one were to enlarge a photograph of a few cubic centimetres of one of his drawings exhibited at the Bibliothèque Nationale, it would then be easy to see the surrealism of the work of Parent.

To push the matter further: in the work of Portzamparc and Grumbach and a few others of this 'disoriented' generation which is still desperately looking for 'cultural support', one could find, if not an approach, certainly, in my opinion, an architectural production which through the design relates to surrealism.

This had to be said (as far as France is concerned) as a compliment to the excellent issue 2-3/78 of *AD*.

Friendly regards,
Ionel Schein
Fontenay-aux-Roses
France

On Surrealism

Sir: There is an interesting theme brought out in the issue on Surrealism that interweaves and insinuates itself, sometimes surreptitiously and sometimes with blatant explicitness.

Dalibor Veseley describes it as an attempt 'to reach an absolute point of reconciliation of dream and reality' founded upon a 'profound feeling of a secret, not visible, but present on the other side of every-day phenomena' and fed, in part, by the left-overs of hermeticism, alchemy and psychoanalytic theory.

Over and again I was struck by the somewhat bemused naivety towards this theme and the fruit it helped to bear. It is one that academics can know all about, yet seemingly few ever experience and know in its essential nature. As a theme it is nothing new, and Surrealists seem to me to be fascinating only in their modernity and perversity of expression of this disturbing and disruptive element in our being that has a habit of crawling out of the psychic woodwork in forms that are not always beautiful.

The Surrealists are presented as haunted by an age-old disease and appetite usually dealt with by varieties of oral tradition – commonly religious, sometimes magical. The outer forms and debris of this tradition are many, as are its dangers which include that kind of madness in which mythic and corporeal reality are indistinguishable and confused – a condition quite different to a positive corporeal echo of mythic realities (to suppose it could always be other than that is, in any case, a kind of madness we all suffer from).

From the point of view of aspirants in 'the work' (as it is traditionally called), Surrealist activities might seem a heroic yet somewhat pathetic and sometimes amusing side-show. On the other hand, such activities might be welcomed (at arm's length) as affirmations of the 'invisible secret on the other side of everyday phenomena' – an innocent (in the sense of unknowledgeable), if potentially dreadful, dabbling in the business of becoming witness to this secret reality.

Again, Koolhaas's description of Dali's Paranoid-Critical Method is reminiscent of varieties of exercise in 'the work' aimed at a kind of alchemical controlled mental breakdown and re-constitution. This is traditionally thought of as purification and re-orientation (mercifully with a sense of humour too) directed at just that kind of spontaneous, reflective purity of the diamond that Dalibor Veseley describes.

The tradition in the west is that this kind of work goes back to Abraham. I feel we fail to enjoy and fully savour the Surrealist phenomenon (and much more besides) unless we recognise its frequently tenuous and, perhaps, sometimes direct connections with this golden thread that winds its way through history and is, I suggest, the real ever-present key to that 'secret, invisible reality'. To

suggest, as Dalibor Veseley does, that the 'poetic intuition unleashed by the Surrealist . . . alone provides the thread that can put us back on the road of Gnosis and Knowledge of supra-sensible Reality' is a trifle optimistic.

Yours faithfully,
Ken Allinson

Credit Due?

Sir: The following is the text of the letter I sent to Dr. Evans concerning his article 'Figures, Doors and Passages' in *AD* 4/78.

Dear Bob,

I have just read your article in the current issue of *AD*. Although I had previously seen the typescript, seeing it in print I am forcibly struck that much of the content of the piece is the product of our students and our work together, although, of course, illuminated by many of your own insights. We have both published and lectured over the past two years or so on aspects of our work, much of what we have said and written being tangential to our main concern, but the article in question is dealing with central issues. With the attached preamble, which I presume you must have agreed to, it appears to be based entirely on your own efforts. This impression is reinforced by the quite extensive notes which suggest that only the dead and the famous have influenced your thoughts. I would ask that you write to *AD* in order to correct this impression.

Fred

The article starts with a misquotation that I would like to see appear intact. As published it reads 'The most familiar things are often shrouded in the deepest mystery'. Originally it was 'ordinary things contain the deepest mysteries'.

Yours sincerely,
Fred Scott

Robin Evan's Reply

Dear Fred: You are right to point out my debt to yourself and other members of Unit 4 over the past three years. It is true also that I could be more courteous. Certainly with regard to the article 'Figures, Doors and Passages' I should have thanked Andrew Walker for drawing attention to the existence of Philip Webb's original drawings of the Red House, and for illustration 20; Colm Mullan for illustration 28, which he originally intended to publish with 'The Clean Aesthetic' (*AD* 3/76), and John Bold of Birbeck College, where knowledge of John Webb and his contemporaries helped clarify the relationship between Pratt's Coleshill

and other 17th century layouts. I apologise in all sincerity for omitting to refer to them in the article itself. The idea of collective authorship, too, is irresistible in so far as nothing is ever written in a void; everything comes from something else and I was not in any case laying claim to exclusive paternity. All I claim is to have spent five months gathering material and trying to write the piece properly (a pitiful long time for a paraphrase).

On the other hand, I am taken aback by your disparaging suggestion that a large part of the article is plagiarised, and am even more surprised to hear that I tried to conceal the theft by planting the stolen goods in a spurious historical setting, although you seem to confuse my inadequate source references with extensive acknowledgements in order to reach this conclusion.

I have tried to discover further evidence to support what you say by re-reading the article, but without much success. Perhaps I suffer from a peculiar, selective amnesia, if so the least you could have done when asked, was to point out what material and opinions I had borrowed. Your willingness to do this meant that I was unable to write the letter you required.

In short, I apologise for not having been more courteous and I agree that the issues covered are central, just as they were, for example, in your Millbank scheme with Batsheva Ronen (*AD* 7-8/77), but I take great exception to the rest of your letter.

Robin Evans

Correction

In last month's issue (*AD* 8-9/78) David Oppenheim's biographical note was omitted for his article 'An introduction to passive techniques' p536.

David Oppenheim: born 1948; graduate of the School of Architecture, Melbourne University; practising architect with experience of solar building in Australia. Presently working with Solar Energy Developments, a London firm of architects and consultants who are currently involved in solar buildings in England, France, Italy, and Morocco. Allied to this building work is a continuous research programme into solar activity, eg: solar agriculture, active and passive systems, computer design, and computer simulations and analysis.

At a quarter to ten on the Friday night at the end of the Architectural Association's week of Beaux-Arts, Dalibor Vesely was called to his feet by Bob Maxwell. 'We have now the death of words. It's time to stop talking,' said the brilliant but never less than cryptic Czech.

And he ended what surely will remain the cultural highpoint of the year for everyone seriously involved in architectural thought in Britain. This feast, five packed days and evenings, stage-managed expertly by Robin Middleton – himself a rare scholar of the period as well as head of general studies at the AA – brought together a clutch of scholars, critics and architects from Europe, London and the US, and packed in eager audiences. It is impossible to do any justice to the individual and varied offerings in these few words, and equally silly to offer a catalogue precis. But the roll-call is impressive enough: including Jim Stirling, Sandy Wilson, Joseph Rykwert and Peter Smithson; Bob Maxwell and Alan Colquhoun; Henry-Russell Hitchcock, John Summerson and David Watkin; Denise Scott Brown and Robert Venturi, among others. Then, of course, Beaux-Arts scholars from France and Germany, along with Dick Chafee, Neil Levine and David van Zanten who had collaborated with Arther Drexler in the initial Beaux-Arts revivalist rally, the autumn 1975 exhibition at New York's Museum of Modern Art.

The AA exhibition of Grand Prix and other concours winners may have been less than that (although more punctilious, with the actual programmes of these student contests set alongside the superbly penned and washed schemes), but the AA conference was surely more.

In New York in 1975, one whole gallery was kept for drawings of arguably the two finest products of the Beaux-Arts: Labrousse's Ste Geneviève library of the 1840s and Charles Garnier's Opéra of two decades later. At the AA rally, instead, each was meticulously dissected in separate lectures, with Neil Levine's on the library being the virtuoso performance of the week; a brilliantly modulated, always fascinating and illuminating exposition of nearly two hours. It also rippled one undercurrent of the whole rally when its accuracy was questioned on a few details the following day – a symptom of what seemed a settling into camps, the US van Zanten/Levine axis performing, proving theses; the UK axis of Middleton/Rykwert/Vesely more urbane and cool. Thus in some sessions we seemed to be eavesdropping on a small group of scholars learning from each other.

Perhaps the Ecolé des Beaux-Arts 'method' itself needs brief explanation today. It was based on students,

working under masters in their ateliers, entering competitions. After a series of eliminating 'concours', the elite students were allowed to enter for the Grand Prix. Thirty students, let us say, were then set a programme – a town hall, a palace of justice, a customs building or an academy – to be designed, that is planned, 'en loge' as a 12 hour test. From this, 8 were chosen to develop and refine their schemes over three months, and the prizes then awarded. The States and then England belatedly joined this system of design education with their own Rome scholarships. (And when did they learn to keep the rain out? asked Denise Scott Brown on the first day. They didn't; she was told; there were builders who could do that sort of thing very well, thank you.)

During the day time sessions, both Chafee and Levine gave, for the innocent British listener, a good feel of the Beaux-Arts, as a teaching method, and how its processes and products changed through the century. (No one really pursued the relation of Beaux-Arts administration in Paris to state control and economic power; Brian Brace Taylor's marxist methodology never quite seemed to relate back to Beaux-Arts, while Tony Sutcliffe's emphasis on Parisian building regs and 'deemed to satisfy' street elevations was similarly diverted.)

But the big guns were brought out for the evening sessions which ran more or less chronologically from Dalibor Vesely's magnificent warp and weft of ideas woven around the meaning of Durand – clearly still of relevance today through 19th century France, Hitchcock on Richardson (HH) and the Americans, Watkin on Richardson (Albert) and the pretty boring English, to Nicholas Taylor's extempore enthusiastic but sadly random captions to a pretty random set of Lutyns slides.

Each evening they were followed by architects; as Bob Maxwell summed it up when introducing the Venturis, Jim Stirling had said what he did do, Peter Smithson what he didn't do, and Leon Krier what he will do when he's in charge. Indeed, links to Beaux-Arts were at times hard to find.

Denise Scott Brown, in her carefully measured voice so close to Margaret Thatcher's, offered a critique of the worrying aspects of resurrecting the elitist Beaux-Arts, now become a Museum of Modern Art cult to the States. Krier, following, was forced to agree with much that she had said. Then, in coded aphorisms, he drew a set of three cartoons: a skull with the brain rationally divided (Beaux-Arts); with brain scrambled (English tradition); blown apart (today). Another set of 'work' (W), 'home' (H), and 'culture' (C); then lots of 'WHC' sets (as it should be); then one with rows of W, rows of H, rows of C (today,

thanks to the Beaux-Arts). The Beaux-Arts, he suggested, was external to – almost in opposition to – the real world of the industrial revolution outside its walls, walls which were of no use to the people and whose meaning was a decorative icing.

In many ways the sharpest, most unexpected and hence exciting contributions were from two who had been trained in the English watered down Ecole system; each claimed to be present uneasily and unwillingly at the rally, each spoke extempore and with anecdotal brevity, each had little time for Beaux-Arts. Stirling, on the first day, from Liverpool and Summerson, on the last, from the Bartlett. In peculiarly English fashion, each told all the secrets of niggering – the process of employing junior students in the tedious bulling up of competition schemes; Summerson had himself 'niggered' for Connell who won the Rome prize in 1926 before making a rather different name for himself with friends Ward and Lucas.

'Super-colossal and super-boring drawings,' said Stirling; 'brilliantly worked out plans,' said Summerson, 'but an equivalent contempt for what went on above ground – a sort of mixed salad . . .' And of the Opera, 'more pomp than circumstance,' said Stirling. Each took few minutes.

Peter Smithson, following Levine's noisy *tour de force* on Labrousse, moved very slowly and quietly into his own. His musings, based on Labrousse's Paestum drawings managed, with charm, humour and amazing dexterity to lead to Christmas decorations in artificial moss and fairy lights. 'Greek architecture,' Smithson said, 'is a fabric capable of attachments,' and from the swags on Labrousse's facade he led via Piero della Francesca into theories of decoration and ritual, the adding of layers of meaning. 'We need historical reference without overt eclecticism,' he suggested.

But this was not going far enough for everyone.

Comparing the span from Durand to Hilbesheimer (paralleling Kaufmann's Ledoux to Corbu span with their reductionist contemporaries), Tony Vidler suggested that just as Durand opened the way for eclecticism, so Hilbesheimer and the cardboard rationalists of the 30s opened 'what we are told we should call post-modernism'.

The cue was for Venturi. But, when his turn came, three days later, he began: 'I'm here as a modern architect; not a "post-modern" nor a "post-Beaux-Arts" architect. To honour our grandfathers, we don't need to kill our fathers.'

Taking as his motto 'The Modern Movement was almost all right', Venturi discussed his own work. 'The

"decorated shed" is ideal in this post-Victor Hugo "death of architecture" period. Organise the function and add the aesthetic . . .

'Architecture,' he added almost in Ruskin's own words, 'is shelter with decoration or with symbols on it.' Using his well-known categories, Venturi sensed that 'the classical duck' may be becoming fashionable – perhaps as watered repro Beaux-Arts. What we needed, on the other hand, he claimed, was 'classical sheds; that is witty and not correct use of the classics, selective not universal, for example putting a classic front on a modern back . . .'

At this point, his slide show became a bizarre sequence of facades with huge boats on top, a classical portico to a jazz museum, small houses with vast fat pilasters cut into by windows, two dimensional porticos and interchangeable facade expressions reminiscent, but without the seriousness, of Loudon's associationism. 'I'd have post-modern outside and Serbo-Croatian inside,' announced Venturi, shedding inhibition; while the post-modernists, he claimed, calling in their own way for total design, were ducking the issue.

Somehow, sadly, this ending to the week showed up the Beaux-Arts at its worst. We were far from concentration on the lessons of taut and beautiful planning, on ways of teaching, representing, thinking about architecture, on a design method and the development of a language of architecture. We were nearer their most superficially thought-out appearances and their applied decoration; the mixed salad and mayonnaise.

And today, the Venturis, while heretically perceptive, often full of wit and never just adding a naughty moulding as a stern joke, remain nevertheless trapped in self-indulgent *épater la bourgeoisie* aesthetics.

A revival of interest in Beaux-Arts as a reaction to what is rather stupidly called 'modernism' might certainly be a reaction to the fact that, with the scales fallen from our eyes, generally less is indeed revealed as less. But – while Smithson is charming with his thoughts on covering a naked fabric with activities and decoration actually implied by that fabric – I remain unconvinced by Venturi's corollary that more is, inevitably, more.

John Maule McKean

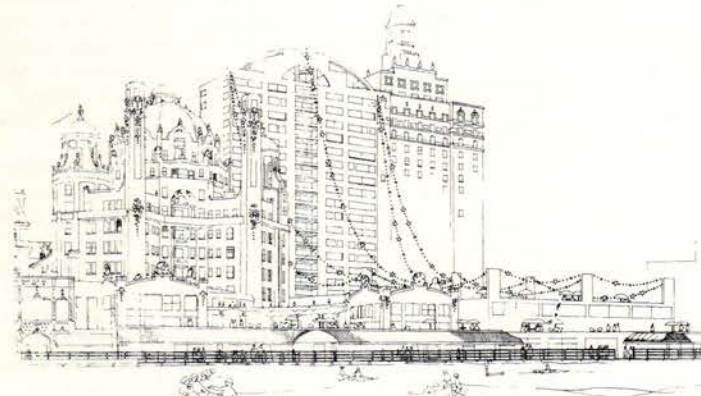
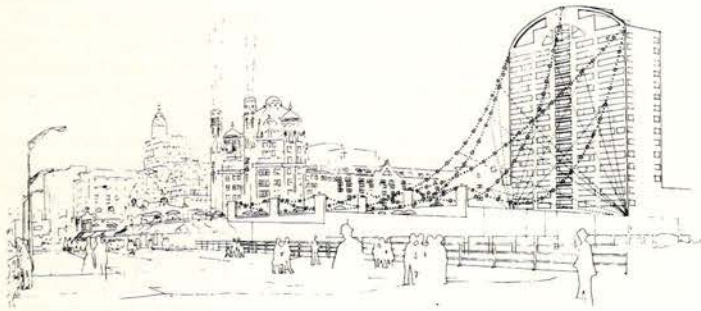
A special issue of AD (11-12/78) on the Beaux-Arts is being devoted to the evening lectures mentioned above. The issue is being guest-edited by Robin Middleton.

John Maule McKean, 34, has recently been writing a popular introduction to 19th century architecture. He runs a seminar in architectural criticism at the AA, and is an architect and writer in the gaps left by his full-time job running the first year in Architecture at the North-East London Polytechnic.

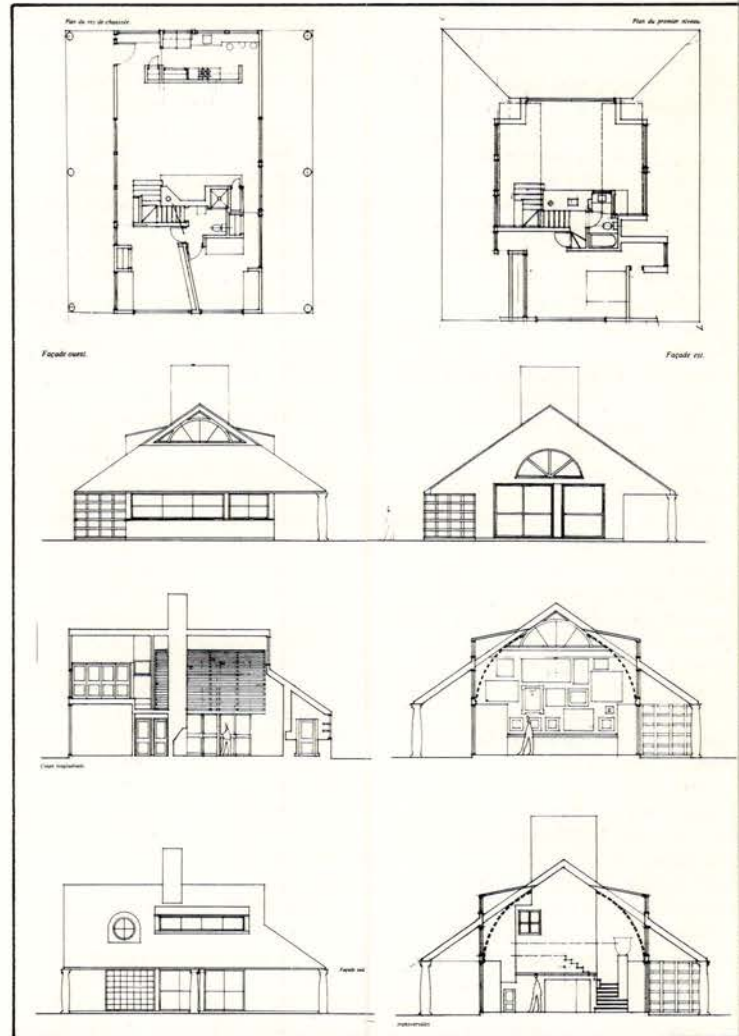
Latest V & R

L'Architecture d'Aujourd'hui (vol 197: 6/78) has followed several other international architectural journals (*Architectural Monographs*, *Werk/Archithese*, and *A+U*) into print with an issue devoted to the work of Venturi and Rauch. What singles the

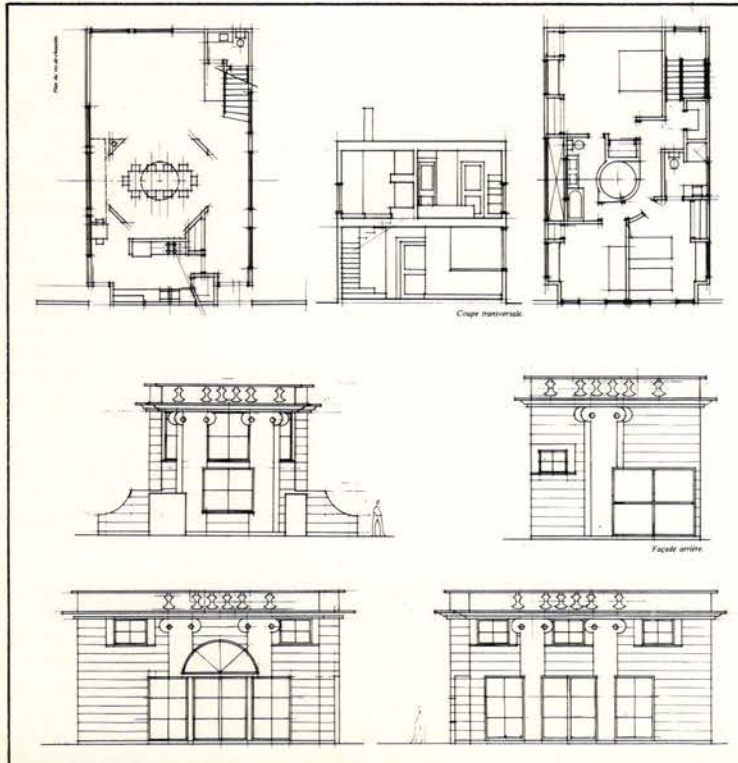
AA issue out from the others, however, is this selection of hitherto unpublished designs.



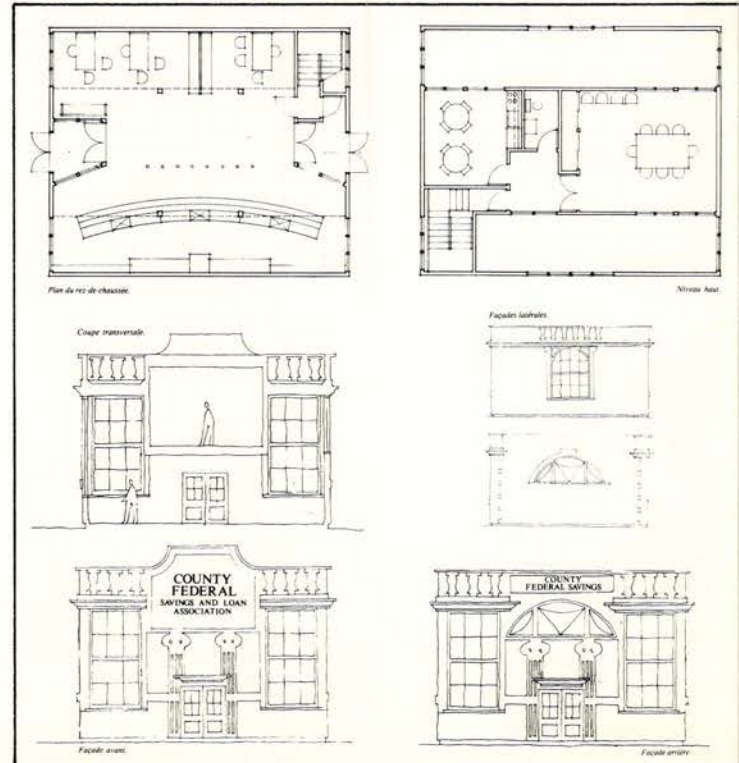
Project for a hotel/casino, Atlantic City, 1977



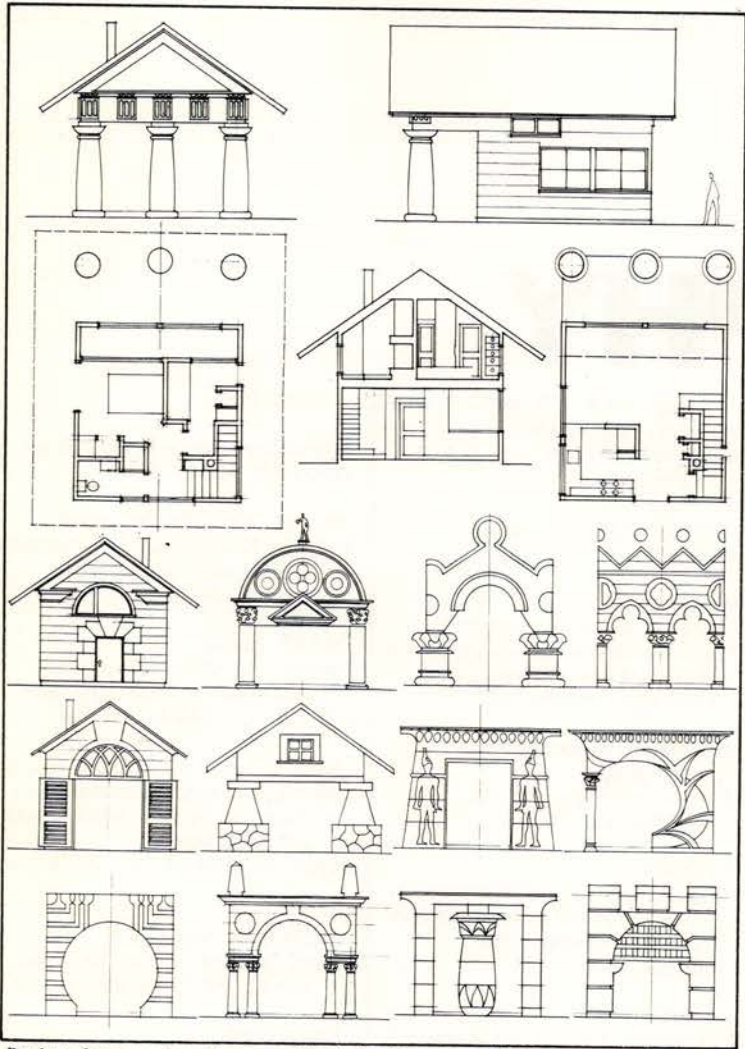
Project for a house for Mr Goldstein, Long Is, NY, 1977



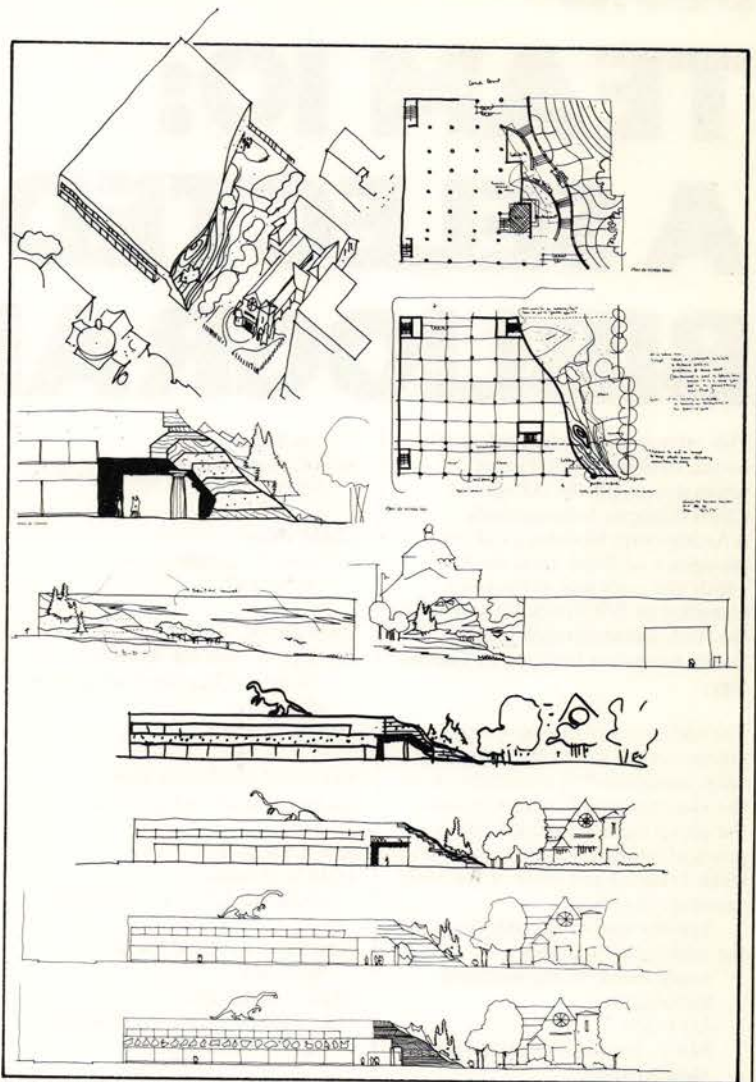
Project for a house at Absecon, New Jersey, 1977



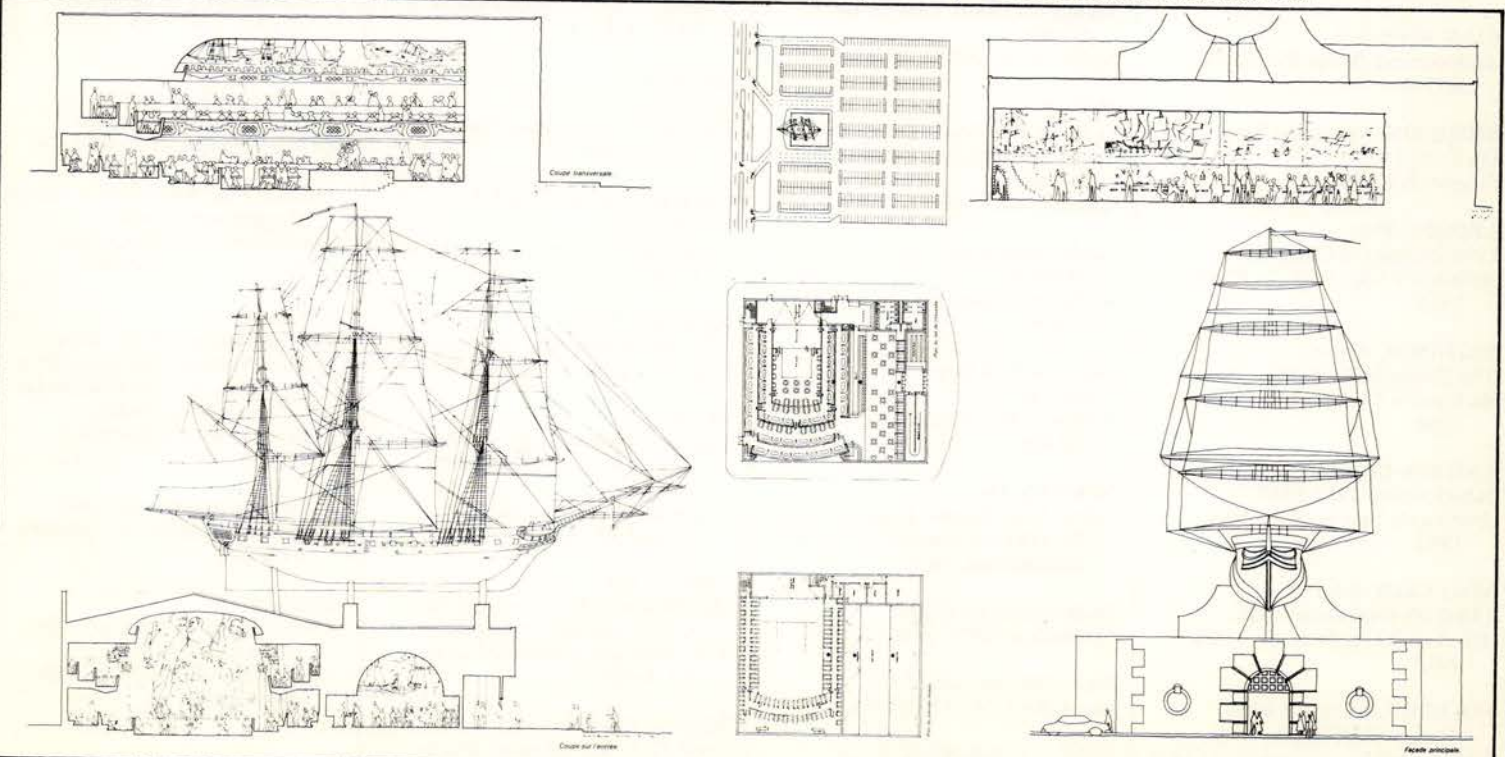
County Federal Savings and Loan Association bank, Connecticut, 1977



Project for a weekend house with study elevations, 1977



Preliminary studies for a science museum, Charlotte, 1977



Project for a jazz club, Houston, 1977

BOOKS

TEAM 10: A SELECTED BIBLIOGRAPHY

This bibliography lists articles and books, in chronological order, which document the collapse of CIAM (Congrès Internationale d'Architecture Moderne) and the emergence of Team 10 in the late 1950s and early 60s. It has been compiled by WYNTON HEADING, of the Architecture Branch Library, South Australian Institute of Technology.

The bibliography does not include articles on the works of the individual personalities but concentrates on the ideas and events which brought the group together and the divergence of opinion which existed between Team 10 and some of the older members of CIAM.

Sources used in the preparation of the bibliography include:

Avery Index to Architectural Periodicals
Art Index
RIBA. Annual Review of Periodical Articles
Architectural Periodicals Index.

CIAM 10 projects
Architectural Design 25: 286-89, 9/1955.

SMITHSON, Alison and Peter
On Team 10
Integral 8, 12/1956.

CROSBY, Theo
Contributions to CIAM 10
Architect's Year Book 7: 32-39, 1956.

SMITHSON, Alison
The Theme of Team 10
Architect's Year Book 7: 28-31, 1956.

LASDUN, Denys
MARS Group 1953-1957
Architect's Year Book 8: 57-61, 1957.

VOELCKER John
CIAM 10, Dubrovnik, 1956.
Architect's Year Book 8: 43-52, 1957.

HOLFORD, William: LING,
Arthur: SMITHSON, Peter
Planning today. (discussion of CIAM

and Team 10)
Architectural Design 27: 185-89, 6/1957.

CIAM village projects
Architect's Jnl 126: 434-36, 19/9/1957.

VAN EYCK, Aldo
Het Verhaal van een Andere
Gedachte (The story of another idea)
Forum 7: 1959.

Nei CIAM preclude le idee
Architettura 5: 8-9, 5/1959.

ROGERS, E N
I CIAM al muso
Casabella no 232: 2-3, 10/1959.

Rencontre des CIAM a Otterlo,
Hollande.
Otterlo, Hollande.
L'Architecture d'Aujourd'hui 30:
XXIV, 10/1959.

HOFFMANN, H
Tagung der CIAM - nachfolge in
Otterloo.
Zodiac no 6: 190-91, 10/1959.

ZEVI, B
La morte del CIAM e la nascita
dell'Istituto nazionale di archi-
tettura
Architettura 5: 582-83, 1/1960.

CIAM: resurrection move fails at
Otterloo.
Architectural Review 127: 78-79,
2/1960.

SMITHSON, Alison
CIAM/Team 10.
Architectural Design 30: 175-205,
5/1960.

NEWMAN, Oscar
CIAM '59 in Otterlo. London, Arch
Pr, 1961 (Documents in Modern
Architecture, vol 1)

Dichiarazioni sul CIAM.
Casabella no 247: 59-60, 1/1961.

Eine erklärung vom CIAM
Bau & Werk 14: 59, 2/1961.

SERT, J L: GROPIUS, W: IE

CORBUSIER: GIEDION, S
What became of CIAM?
Architectural Review 129: 154,
3/1961.

CIAM I, CIAM II, TEAM X.
Architettura 7: 5/5/1961.

POLONYI, Karoly
CIAM - Team X: Az Economist
Magyar Epitomuveszet ed Gyongyos
Istvan, Muszaki Konyvkiado,
Budapest. Autumn 1962.

SMITHSON, Alison (editor)
Team 10 primer
Architectural Design 32: 12,
559-602, 12/1962.

BANHAM, R
CIAM in *Encyclopedia of modern
architecture*, ed A Hatje, London,
Thames & Hudson, 1963,
pp 70-73.

CANDILIS, A
Le Corbusier 1920-29: de l'esprit
nouveau à la création des CIAM
L'Architecture d'Aujourd'hui 34:
20-21, 4/1964.

GIEDION, S
Les CIAM.
L'Architecture d'Aujourd'hui 34:
36-37, 4/1964.

The work of Team 10, ed A
Smithson
Architectural Design 34: 373-93,
8/1964.

BANHAM, Reyner
The New Brutalism; ethic or aesthetic
London, Arch Pr, 1966, pp 70-75.

BROWN, D S
Team 10, Perspecta 10, and the
present state of architectural
theory
*American Institute of Planners.
Journal* 33: 42-50, 1/1967.

EMERY, P A
Du rôle des CIAM dans l'histoire
de l'urbanisme contemporaine
L'Architecture d'Aujourd'hui 38:
4-5, 6/1967.

SMITHSON, Alison (ed)
Team 10 Primer, London, Studio

Vista, 1968.

English Brutalism; selected writings
Zodiac 18: 42-50, 1968.

Team 10: die Kollektive unvelt.
Deutsche Bauzeitung 102: Deutsche
Verlag Austalt-GmbH, West
Germany, 10/1968.

DALEY, Judith
Needed - an identity for architec-
ture: review of Team 10 Primer
RIBA Jnl 75: 544-45, 12/1968.

TANGE, Kenzo; ISOZAKI, Arata
Directions in today's architecture, a
discussion between Kenzo Tange
and Arata Isozaki
Japan Architect no 165: 23-28,
7/1970.

SMITHSON, Alison (ed)
Team 10 Primer, Tokyo, Shokusha
Pub Co, 1971. (Japanese transl)

EMERY, PA
Les CIAM et la charte d'Athenes.
L'Architecture d'Aujourd'hui
no 158: 28-37, 83, 10/1971.

SMITHSON, Peter
The Athens Charter, by Le
Corbusier: Book review.
Architecture Plus 2: 2, 3-4/1974.

Team 10 + 20. Special no in French
(English summaries)
L'Architecture d'Aujourd'hui,
no 177: 1-66, 1/1975.

BAKEMA, JD
Rectification in order to avoid
mystification. (Letter to editor:
clarification of the relationship
of Team 10 to CIAM).
L'Architecture d'Aujourd'hui
no 180: VII-IX, 7-8/1975.

Team 10 at Royaumont 1962
Architectural Design 45: 664-689,
11/1975.

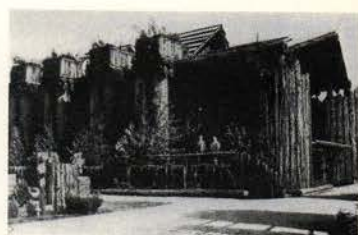
BOHIGAS, O
Variaciones de Hertzberger sobre
temas del Team 10.
Arquitecturas Bis no 11: 22-26,
Enero 1976.



Hearst Hall, interior, 1899



Hearst Hall, reception pavilion, 1899



'Hoo-Hoo House' 1915

BERNARD MAYBECK

Bernard Maybeck Artisan, Architect, Artist
Kenneth Cardwell, Peregrine Smith Inc, 255pp, illus, \$24.95.

Cardwell introduces Bernard Maybeck (1862-1957), the first American born child of German immigrants, at a point that he shuns the 'success' filled corridors of the New York social environment to seek a more uniquely American experience of modest 'achievement', first in the Midwest and finally, in California. In fact he leaves very auspicious beginnings with Carrere and Hastings where he proves himself a prodigious designer in the Ponce de Leon and Alcazar Hotels (1888) to pursue what proves a more frustrating existence of unrewarded competition entries and experimental ideas in Kansas City, Salt Lake City and San Francisco where he finally gets a start with A Page Brown.

A selfless man, Maybeck is shown as he conscientiously contributes to the careers of others (particularly Julia Morgan) and as he consistently has the humility to give greater priority to the larger project than to his small piece of it. This is demonstrated most dramatically in his response to receiving the commission for the Mining Building at the University of California (Berkeley) from Phoebe Hearst. Instead of following the more typical course by pursuing a hermetic design, Maybeck postpones his involvement until he has researched and organised a competition for a general master plan for the entire campus. And though Emil Benard's winning design was never realised, his scheme does show the contextual interrelationships of a truly communicative campus that Maybeck thought important — at least as evidenced in Maybeck's own work on the Canberra Competition and in his work on

Principia College and on Mills College, all projects which reveal his Beaux Arts training.

Maybeck was a curious man, a bit of a sage. One imagines (as indeed Cardwell alludes to have done) sitting cross legged beneath his tilted chair listening to him relate stories and wise anecdotes. One reason may be that his character and career were so multifaceted. His work took such disparate directions as the refined classical elegance of his later work for the Hearsts, the provincial quaintness of his own house at Berryman Street, and the wit and skill of the Goslinsky House. He was capable of the power

of the First Church, the crass primitivism of The Glen Alpine Springs Resort, and the pure humour of the House of Hoo Hoo. Taken singly some of his projects appear even naive. But, as in the variegated work of Picasso which gives credibility and deeper meaning to his specific projects, we reflect on the alacrity of the Anthony House and wonder if the extrusions above the Outdoor Art Building are merely an expediency to structure as Maybeck contends.

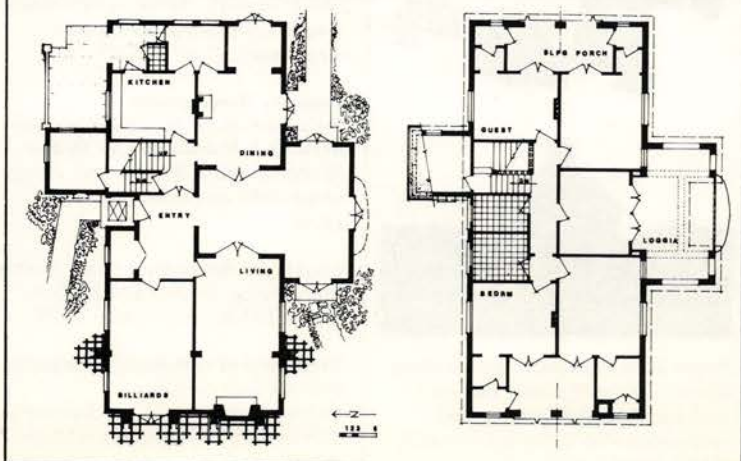
Part of the answer to the query posed by such complex manifestations in his work may be found in observing that Maybeck very obviously revelled in the different fantasies proffered by his clients. Rather than subjecting their desires to a predeveloped humanist conception of ideal life as

Frank Lloyd Wright did, Maybeck demonstrates a sincere attempt to reflect those desires in his superbly empathetic designs. Without copying details directly he captures a spirit and masterfully plays with our expectations. Or when he does use details directly he tends to exploit them in a way which to some extent prefigures work by those such as Jim Dine. Like Dine who counts on our cultural understanding of the objects which he abstracts, Maybeck uses the 'meaning' of the door trim in the Andrew Lawson House entrance and by bending it around the corner he recentres on our approach and plasticises the facade to create a protective entry enclave. Because his buildings employ, either directly or by suggestion, such easily recognisable forms they affront our memories metonymically and, as such, provide easy and inviting introductions as we are enticed to join in Maybeck's fun.

As for the book itself, Cardwell presents Maybeck in a painterly fashion. He slowly reveals Maybeck with written brush strokes which sweep back and forth over his career following a very loose chronology. Though he pins his subject down occasionally with a few hard facts, he more generally chooses to cluster projects and events around certain feelings and attitudes (which form his chapter headings) which reach out to include wide and overlapping periods of Maybeck's life. The result is a biography which captures the same spirit endemic to Maybeck's work and which consequently better reflects the force behind that work's exploratory leanings.

Cardwell admires Maybeck perhaps to the point of adulation. The resulting warm and personal biography reveals aspects of Maybeck's sometimes spiritual character which might not have been developed in a more objective approach. But by writing in such a vested manner Cardwell traps himself with certain high expectations to which he measures each project, lauding some while apologising for others. Such a priori judgements are not terribly fair to Maybeck. Significantly, they are exactly those projects over which Cardwell glazes most apologetically which are often the most intriguing. In all we can relax and read with great pleasure this warm biography of a warm architect.

Robert Orr



Andrew Lawson House, 1907

Letters

Street Name Lettering in the British Isles

Alan Bartram, Lund Humphries, London, pbk, b/w ill, 96pp, £3.95.

Fascia Lettering in the British Isles

Alan Bartram, Lund Humphries, London, pbk, b/w ill, 96pp, £3.95.

Tombstone Lettering in the British Isles

Alan Bartram, Lund Humphries, London, pbk, b/w ill, 96 pp, £3.95.

All expectations should be set aside when first approaching these three little books. The rash of picture books filled with dumb coy photos of wood stoves, sun bursts and chimney pots all romanticise the ordinary, without providing any wisdom to accompany these new ways of seeing what convention regards as banal. But Alan Bartram's carefully observed examples of every-day lettering from Britain's past are different. Each illustration is captioned with his detailed research notes that trace the developments, influences and techniques that underlay the use of typography on every street corner, shop front and church yard up until the end of the 19th century, typography now swiftly being replaced by the ubiquitous British Rail Helvetica. Hopefully, his books will serve as models for all those other little picture-pot-boilers now in production. Meanwhile they stand on their own.

Ed



'This splendid little name at Modbury, Devon, presumably cast, in generous relief, in plaster, creates an effect quite disproportionate to its small size. A rather well-designed grotesque, it demonstrates how a simple device can enliven a whole wall, and how street names can be an asset, not a bothersome necessity.'

Piazze

Piazze D'Italia: Architettura e Urbanistica della Piazza in Italia

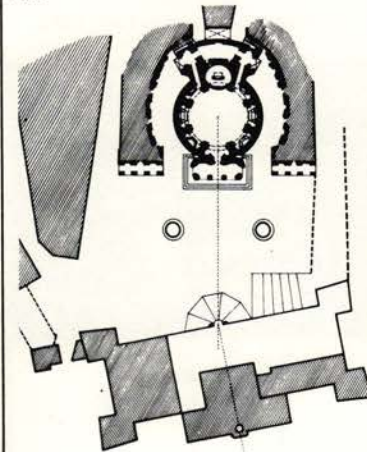
Paolo Favole, Bramante, Milano, 1972, hdbk, limited edit, 244pp, b/w and col ill.

A beautiful book, finely bound, coffee table sized (but the comparison ends there), handsomely illustrated (with many fine contextual plans), and with only one drawback – the text is in Italian.

The book traces the development of the piazza chronologically through five periods: Roman times, medieval times, between 1418 and 1585, 1585 and 1772, and 1772 and 1940. Each section is accompanied by many photos illustrating the piazzas and their surrounding buildings as well as showing the approaches.

The fact that this book was published in 1972, but has only lately arrived for review is indicative of the degree of interest which is now being shown in the historical study of urban forms – increasingly architects now make the Grand Tour specifically to collect such memorabilia. And for anyone particularly interested in the Italian piazza and about to set out and see them, it will probably be worth their while to work their way through the captions in this book with an English/Italian dictionary – because it is highly unlikely that such a lavish book is going to find itself an English publisher.

Ed



Piazza della Repubblica, Ariccia (near Rome) – Bernini closed the space with his *Maria dell'Assunta* and colonnaded screen that surrounds it (1662-1665).

Books Received

The Dynamics of Architectural Form

Rudolf Arnheim; University of California Press; 290pp b/w photos, diags, notes, bibliog and index; Cloth £10.00

De Cristoforo's Housebuilding

Illustrated: A do-it-yourself guide R J de Cristoforo; Harper and Row; 644pp 1018 drwgs, b/w photos, diags; Cloth £8.95

Body, Memory, and Architecture

K Bloomer and Charles Moore. Yale University Press, 1977; 148pp notes, bibliog, index, b/w photos, diags and drwgs; Paperback £5.00

Space in Architecture

The evolution of a new idea in the theory and history of the modern movement

Cornelis van de Ven; Royal Vangorcum; XVI + 277pp 200 b/w photos. Paperback

Baroque Churches of Central Europe

John Bourke; Faber + Faber, 310pp, b/w photos, appendices, bibliog, index; Paperback £3.25

Wege und Wegräume

Untersuchungen – Überlegungen – Planungen

Zeichnungen von Hans Dieter Schaal; Hans Dieter Schaal; German text, 136pp, b/w drwgs; Paperback

Architecture and Critical Imagination

Wayne Attoe; John Wiley and Sons; 118pp, b/w photos, diags, drwgs, bibliog, index; Cloth £8.95

Fry Drew Knight Creamer:

Architecture Ed Stephen Hitchins; Intro by H A N Brockman; Lund Humphries, 160pp, b/w photos, drwgs; Paperback £5.95

Standard Details for Fire-Resistive Building Construction

Louis Przetak; MacGraw-Hill; 366pp, diags, appendix, index; Cloth £14.95

English Interiors 1790-1848 – The Quest for Comfort

John Cornforth; Barrie and Jenkins; 144pp, 126 b/w and 49 col illus, notes, index; Cloth £15.00

Property Development

D Cadman and L Austin-Crowe; Foreword by E Melville and Sir Dennis Pilcher; E and F N Spön Ltd; 246pp w appendix and index; Paperback £4.95

Looking at Architecture with Ruskin

John Unrau; Thames and Hudson; 180pp 101 ills 4 col; Cloth £7.50

Urbanisme et technique; Chronique d'un mariage de raison

Gabriel Dupuy; Centre de Recherche d'Urbanisme; 420pp diags bibliog; Paperback

Methuen Handbook of Colour

A Kornerup and J H Wanscher; 3rd edition – intro and revis by D Pavey; Eyre Methuen; 252pp many col plates and diags; Cloth £7.50

Planning and Urbanism in China,

Vol 8 Part 2 Progress in Planning; Ed Nick Jeffrey and Malcolm Caldwell; Pergamon Press; Magazine \$10.00

Selected Readings in Quantitative Urban Analysis

Ed S J Bernstein and W G Mellon; Pergamon Press; 304pp diags; Paperback

Selected Readings in Quantitative Urban Analysis

Ed S J Bernstein and W G Mellon; Pergamon Press; 304pp diags; Paperback \$14.00

The Obelisks of Egypt –

Skyscrapers of the past L Habachi; Dent & Sons; 204pp col and b/w photos, notes, chronological tables, index, bibliogr; Cloth £5.95

Wächtersbacher Steingut

H and L Frensch; Langewiesche-Königstein; 144pp col and b/w photos, diags, drwgs, (German text); Cloth

Habitat International

(A Journal for the study of Human Settlements) Vol 3, No 1-2/78; Memorial issue dedicated to Duccio Turin; Pergamon Press

Human Aspects of Urban Form

Amos Rapoport; Pergamon Press; 440pp diags; Cloth \$20.00

The Virginia Journal of Benjamin

Henry Latrobe 1795-1798 Ed C Carter II and A Polites; Yale University Press; 576pp in 2 vol b/w and col ills, drwgs; Cloth £43.20

Wales: An Archaeological Guide

The Prehistoric, Roman and Early Medieval Field Monuments C Houlder; Faber; 208pp b/w photos, drwgs, diags; Paperback £2.95

All Their Own: People and the Places They Build

Jan Wampler; Oxford University Press; 204pp all col, b/w photos, drwgs; Paperback £4.95

Self-Supporting Co-operative Village at Standford Hall, Notts

K Smiglieski; Building and Social Housing Foundation; 72pp b/w photos, drwgs, diags; Paperback

Guide d'Architecture Suisse

Ed F Adler, H Girsberger, O Riege; Artémis, Zurich; 226pp b/w photos, drwgs, diags, index (text in French, German and English); Paperback

AD PROFILES '80

BRUCE GOFF

Guest Editors

John Sergeant and Stephen Mooring

- | | |
|--|--|
| 2 Bruce Goff:
'As an Architect' | the book <i>The Architecture of Bruce Goff</i> by Jeffrey Cook. |
| 3 John Sergeant:
'An Introduction to Bruce Goff' | 50 Joe Price:
'A Client's View of Bruce Goff' |
| 6 'Biographical Notes on Bruce Goff' | 52 Herb Greene:
'Recollections of Bruce Goff as Teacher' |
| 7 Lionel March:
'Bruce Goff and the Architecture of Happiness: Reflections on Jeffrey Cook's Book <i>The Architecture of Bruce Goff</i> ' | 55 John Sergeant:
'Bruce Goff, the Strict Geometrist' |
| 10 Charles Jencks:
'Bruce Goff: The Michelangelo of Kitsch' | 63 Stephen Mooring:
'Bruce Goff: An Ornamental Link' |
| 15 Stephen Mooring:
'A Starting Point: Bruce Goff and His Clients' | 67 David De Long:
'Bruce Goff and the Continuation of the Continuous Present' |
| 16 'Buildings and Projects by Bruce Goff' with comments from Goff's clients edited from answers to a questionnaire prepared and circulated by Stephen Mooring, and with notes and descriptions of the buildings abstracted from various sources including David De Long's book <i>The Architecture of Bruce Goff: Buildings and Projects, 1916-1974</i> . The colour illustrations have been published in conjunction with Crosby Lockwood Staples, and are from | 75 Jeffrey Cook:
'Bruce Goff's influence on American Architecture' |
| | 81 Bruce Goff's Working Drawings: Pollock house, Gutman house, Gryder house, Hyde house, Duncan House, and Price house. These drawings have been edited from a selection of drawings provided by Bruce Goff. |
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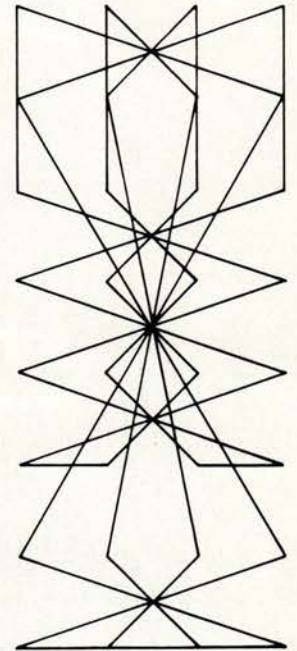
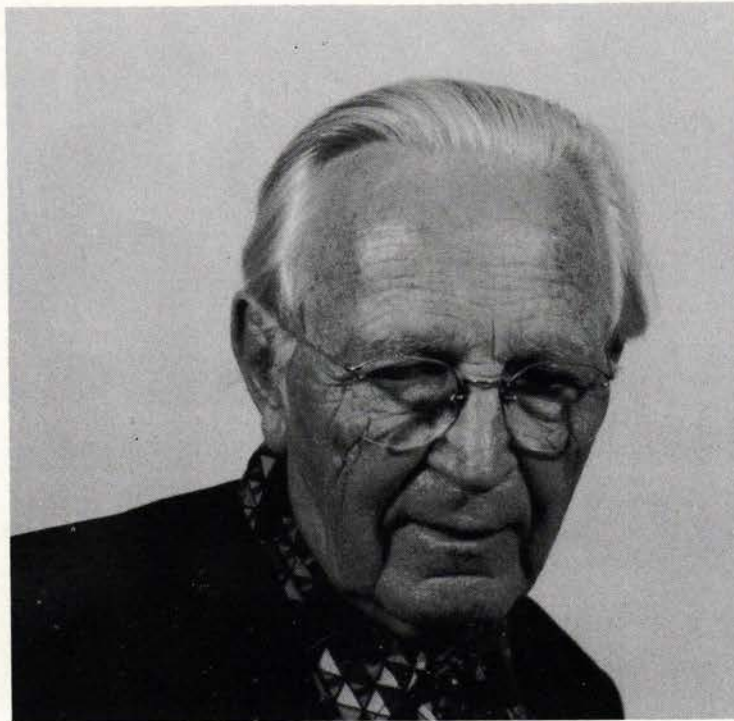
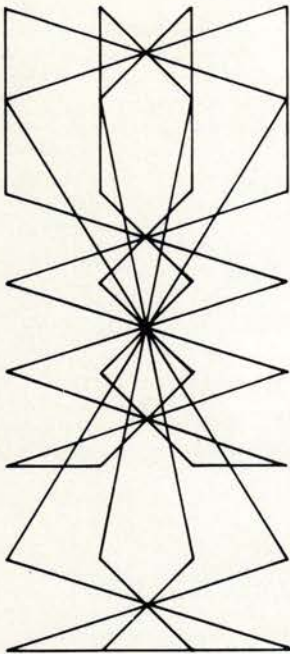
Architectural Design

7/8 Holland Street, London W8

Vol 48 No 10 1978

Bruce Goff:

'AS AN ARCHITECT'



I do not solicit clients. They choose to come to me as they would to any professional man for specific professional services. I do not work for clients . . . I work with them. There has never been a building built before, by anyone else or myself, that my client should have; we must work it out together. I forget what other architects and I have previously done so we can start as freshly as possible.

I must be sensitive to my client's needs, wants and budget. I do not build upon a site . . . I build with it as part of its region, climate and environment.

I must be free from narrow-minded prejudices regarding materials, methods, colours, textures, forms, ornament, structure, and spatial determinates; all such aesthetic and utilitarian matters as felt and understood by the clients and myself must be freely disciplined by me, as an architect, into a grammar from which will be composed the whole complete architectural concept. There shall be no starting with a predetermined over-all shape or form in mind; no subdividing of it into rooms cluttered with furnishings . . . with the clients and their lives squeezed and compressed within. This is usual, and as usual is no more than the usual container for the use of humans! Rather, the whole thing will start with accommodating people and their ways of life and will grow organically from within outward thus becoming its own shapes and forms.

If I give the client only what he asks for, he may be temporarily satisfied with it for a while, but eventually he will just get used to it. As an

architect I should give him what he wants . . . and more! If it is a work of architecture, the client will continue to grow aesthetically in such an environment . . . therefore there must be a continuing surprise and mystery beyond what he initially understood to hold his interest and to be a continuing, rewarding setting for his lifetime.

Architecture is the only art which we can actually inhabit. It is often our desire to enter or take part in a work of art in order to make it ours. Thus in literature we involve ourselves with it while we read . . . in music we must participate in it, as we listen, if we are to understand it. More and more we like sculpture to be large enough so we can be spatially involved with it. We project ourselves imaginatively into paintings and other visual arts. We can be happy adapting ourselves to pre-existent art works, but those created for and with us as a part of them seem most alive and vital to us.

As an architect I know that technology and superb building techniques are necessarily a part of all of this, and we must be more aware of the ones we already have and of those new ones we need. But good building, in itself, is not enough to be called good architecture. However, architecture is good building plus.

An architect's works are personal and impersonal . . . timely and timeless. Having a licence to practise does not mean, in itself, one is an architect anymore than having a driver's licence means one is a good driver. This is what separates the boys from the men. The real architects are the young ones,

regardless of age, with continuing enthusiasm, imagination, industry, inventiveness, curiosity and dedication to architecture for all people as their reason for being. Anything needing to be built, small or large, simple or complex, should and can be architecture. We have many more people wanting this than we have architects able to supply their demands. We must never forget that architecture is for all of us.

As an architect, I know that our works often make some people mad and some glad. The creative young are intrigued, inspired, and stimulated by them as are those who use them. By such examples we continue to renew faith in the creative spirit and its potentials. Thus we are also teachers, but not academic.

I have never sought publication or publicity, preferring to let the work earn this for itself if it is worthy. And so I too continue to 'maintain my amateur standing' as a beginner, beginning again and again in the continuous present. . .

B.G.

Bruce Goff, Architect

This was originally published as a 'coda' in a portfolio limited to 1500 copies and published on the occasion of an exhibition of the art and architecture of Bruce Goff at the Yellowstone Art Center, Dillings, Montana, 5/5 to 11/6/78.

John Sergeant: AN INTRODUCTION TO BRUCE GOFF

During the 1920s, Mies van der Rohe and Hugo Häring shared an architectural office, thus providing the development of modern architecture with one of its more interesting moments. They reputedly debated the direction in which architecture should go.¹ Mies argued for a design theory which was concerned with absolutes: it had a polemical basis and sought universal answers to the challenge of mass-production and the structural frame. Häring supported a more pragmatic attitude which saw the search for a building solution in the specific nature of the problem. The first might be called a Classical Design Theory, and the second was termed Expressionist by Siegfried Gideon, Pevsner, and others. The history of modern architecture was, of course, written as the history of the International Style (a suitably universal title), and Frank Lloyd Wright (and what he termed Organic Architecture) was portrayed as an aberrant strain. These two are clearly Classical and Romantic in ultimate analysis, or the *yin* and *yang* of architectural design. The former results in Le Corbusier's Unité apartment buildings, which were sited north-south and avoided any concession to their site or inhabitants, or Mies' Berlin Art Gallery, which is such a universal, unspecific space that it makes a poor gallery, but would make a good if luxurious bank or cow shed. The latter results in Häring's own Gut Garkau Farm (1924), which so celebrated the actual requirements of the bull and cows as to make alteration and flexibility difficult to achieve.

In an organic architecture the ground itself pre-

Unité at Marseilles (1953); Le Corbusier's apartments run E-W so all Unités were sited N-S. The site was recognised, not as a generator but as an obstacle; pilotti lengthened to march through the topography.

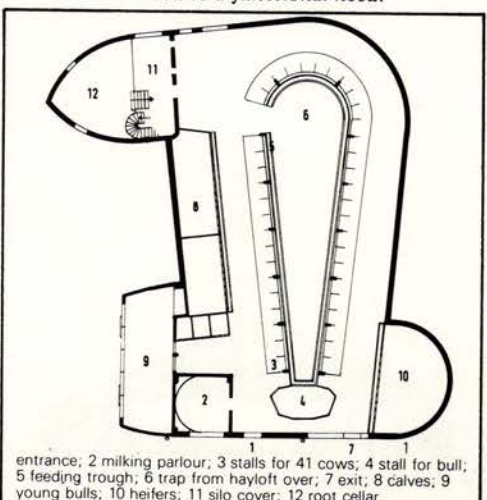


determines all features: the climate modifies them: available means limit them: function shapes them.²

Bruce Goff would accept Wright's definition, but would expand it to include the life-experience of both architect and client as factors. It is this that makes his work so visually diverse and so responsive to the building user. He avoids generalised social views and has not made urban planning proposals: he concentrates on his relationship with his client. His taste tends toward the exotic, and this, together with the variety of his work, has convinced critics that he was not serious.³ However, behind the superficially weird and frequently fantastic lie characteristics which are undisputed contributions to modern architecture, and which clearly place Goff in the ranks of Organic-Expressionist architects.⁴ It is not surprising that the debate of Häring and Mies should have been continued in post-war American architectural education. An exchange of exhibitions of work from Goff's school at the University of Oklahoma met with furious enmity from Mies's students at IIT⁵

Although Goff's domestic planning possesses bewildering variety, it generally obeys one constant principle. The house is seen as a single spatial entity without any marked separation of bedrooms from the living area. For the most part, it is also internally focused and while being closely related to its landscape, is isolated from it. In this Goff diverges from Wright's planning practice. The Usonian houses were typically of 'L' shape, with an open plan living area in one arm, services in the angle, and bedrooms in the other. Private and

Gut Garkau farm (1924): The form of each element can be traced to a functional need.

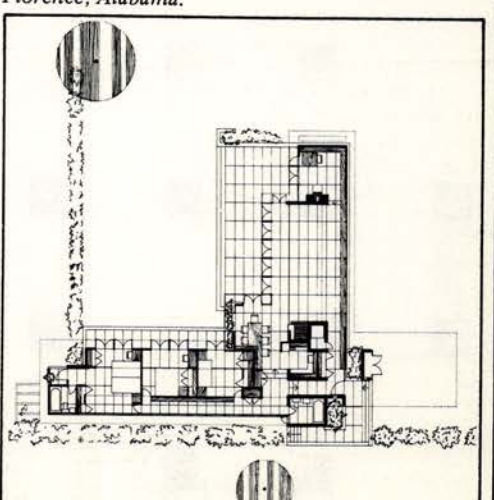


public zones were therefore discreet, and overlooked and contained the private terrace and garden.

Neutra, and many other American architects, have used and extended this plan-type. Goff's development of a single, differentiated and subdividable room offers some advantages. In a small home, and few of his designs are large, this reduces circulation and external surface area, and makes the plan efficient; it also improves energy efficiency by reducing heat loss and gain. Above all it maximises the possibility of making a space of quality from what would otherwise be a multiplicity of tiny rooms. In a social sense it stresses the corporate nature of the family, which may be no bad thing in a rapidly changing, pluralistic culture. Remarkably, in its openness and use of service cores, it lies close to Miesian domestic planning, while possessing very different architectural intentions. Its chief disadvantage lies in a reduction in visual and auditory privacy.⁶

Goff's single-space planning depends upon careful zoning of the plan, so that private areas are remote from the centre of activity — in larger homes he invented the stratagem of clustering parents' and children's rooms around their separate living areas. It also relies on two technical devices. The American building industry provided a robust folding accordion door which was enthusiastically taken up by Goff. And he solved the difficult problem of providing service and storage facilities without destroying the entity of the single-space by one of his chief innovations, the satellite storage unit. The Spencer House, projected for Chicago in 1941, resolved the plan into 'served' and 'service' zones fully 14 years before any appearance of the concept in Louis Kahn's work. But where is Kahn's

Rosenbaum House (1939), Frank Lloyd Wright, Florence, Alabama.



Trenton Bathhouse (1955) the analysis is shackled to a ponderous tartan grid which its architect was never able to slip off, Goff developed it to achieve an original and remarkable curvilinear architecture. His projects for the Quarter-circle house, Oregon (1943), Cheatham House, Marin County, California (1945), and Gillis House, Bend, Oregon (1945), all show a search for free-flowing space made functionally useful by circular satellites. In the Leidig Project of 1946 for Hayward, California, these satellites had become circular islands containing room functions and set within an interior pond and water garden; they were to be connected by meandering randomly-boarded causeways. In the celebrated Bavinger House, Norman, Oklahoma (1950), service units were finally built in the form of gold-carpeted nests, each equipped with a copper-clad circular closet, suspended within the spiralling space contained by the rough sandstone outer wall. In the Bavinger plan the service elements suggested the organs of some vast marine mollusc, and this analogy was maintained by the Dewlen Aparture, 1956, a house projected for semiarid grassland outside Amarillo, Texas, a great star-fish of plastic foam and coal walls, pointed with mortar containing golden iron pyrites. The curvilinear theme is only one of Goff's planning modes.

The experiential attributes of Goff's architecture are what delight and shock his critics. His colours and combination of materials can be so outlandish as to provoke disbelief; then laughter; then thoughtfulness. The tactile influence of some of his designs is so strong as to by-pass the brain altogether and operate directly on the senses.⁷ It is understandable that this might constitute assault to the mind of a cerebral, puritan commentator, who might therefore dismiss the building as vulgar or kitsch. Ultimately this is something for each individual to make up his own mind about (Goff and his client, you can be sure, are happy with it), but he has certainly broadened the arena of architecture. His work contains humour and wit, and engages the instincts no less than the mind; it has certainly moved far from Corbu's 'magnificent play of (white) solids . . . under light.' He is uninhibited in his use of colour, which he uses to create mood in accordance with his client's wishes, and he is a master of light. He uses reflected and water-dappled light to animate the daytime experience, and glimmering firelight and sparkle to accentuate his paces at night.⁸

The 'life-experience' of Goff and his clients evidently must account for the unusual appearance of his buildings. Client preferences are always

important, and sometimes seminal, to Goff's design process.⁹ The formal generator may lie almost anywhere, in Price's desire to sit on the floor, Mrs Ford's (a gourmet cook) request for a central kitchen, Mrs Hyde's love of the colour green, or Mrs Comer's stipulation of a Y-shaped space division. Goff can even be sparked off by the appearance and habits of his clients, or, an extreme case, their name; the Swanbat design of 1957 for Michigan City, Indiana, shows a low-level garage linked by a curved covered way to the house above – it is identifiably a visual fusion of a swan and a bat. In all this he may be extreme, but it is salutary to remember that such current architectural concerns as advocacy and community involvement are the direct result of the polemical and elitist formal excesses of much post-war architecture. The point should not, however, be over-stressed; Goff is equally likely to originate the formal concept for his design in the down-to-earth problems of site and lack of skilled labour for construction, as occurred in the Duncan House (1965) near Cobden, Illinois,¹⁰ or his private fascination with geometry.¹¹ But the client is:

the most important part of any building operation and particularly when Architecture is his aim as well as the aim of the architect. He is more than just the person who needs a building and who furnishes the money.¹²

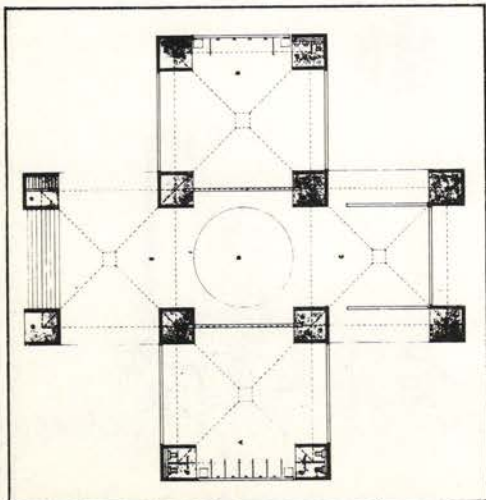
Goff's clients, like Wright's, have been self-confident and middle-class.¹³ No other common characteristic links them except for their predominant origin, which they share with their architect, as Mid-Westerners.

Oklahoma, Goff's heartland, has a special, colourful character which suits his exuberance. Approaching by air, your tasteful grey/blue Bauhaus Eastern Airline jet gives way to a brilliant scarlet, turquoise, green or yellow Braniff Boeing artwork; the interior hums with alternating orange and sienna, and your stewardess is Gucci-clad in Gauguin pastels and silver thigh-boots. Below Appalachian greenery has been replaced by red soil, from Prairie horizon to horizon. The light is sharp. On the ground the atmosphere is redolent of Western movies, and a certain brashness overlays more ancient Mexican and Indian undertones. The regulation classical state Capitol in Oklahoma City has an oilwell just inside its peristyle. Goff seems to have been busy on every roadside facility. It is ironic that in this region, so far from the coastal style-setters and trends of MOMA, traditionally

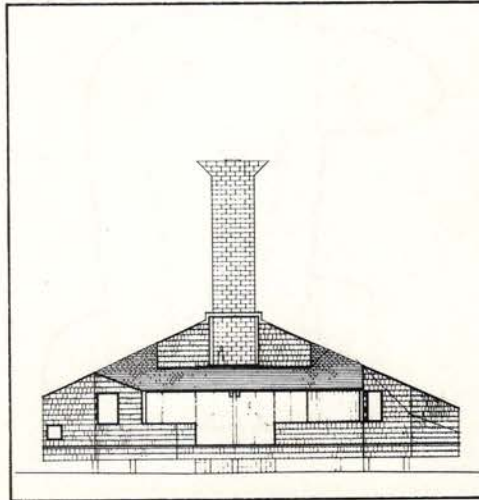
Bible-belt and conservative, some of the most audacious houses of this century have been built.

The fundamental element in Goff's make-up is that he is self-taught. He followed his own hunches, and starting work in an architect's office at the age of 12,¹⁴ opened himself to every influence. He loves buildings and is very well informed about them. From the beginning his taste was very catholic,¹⁵ but inclined toward the unconventional. He immersed himself in the gamut of contemporary design, from Sullivan to Maybeck, and Mackintosh to Horta; he admired among illustrators, Erté; painters, Klimt; composers, Ravel and Debussy. The direction of his architectural interest is indicated by his respect for the work of Gaudi, the Peacock Room of the Imperial Hotel in Wright's output, and by Japanese and Balinese culture. He himself feels that Debussy is his formative influence or 'life experience', and it is evident that the subtle rhythms, translucency, extraordinary orchestration and *timbre* of the music were translated into the forms of his work. Military service in the Seabees – the Navy construction battalions of the second World War – developed Goff's remarkable ability to use low-cost, as-found materials.¹⁶ He has built on this experience to formulate his present architectural outlook. Faced with materials scarcity and spiralling building costs, he ignores the temptation to abandon architecture as Art and fall back on the 'decorated shed' concept, and instead looks toward high technology. Using the analogy by which expensive orchestra techniques are being supplanted by electronic music, he anticipates the invention of a materialising process by which the designer will be able to achieve his concepts directly without resource to the manual methods of the building industry. Whether this is ecologically realistic, time will tell.

Goff's work is profoundly American. His constructional dexterity and skill fall squarely into the folklore of Mr Fixit and the Yankee Tinker. And his pursuit of the architectural portrait develops the constitutional right to a private dreamhouse which was articulated by Wright in 1908.¹⁷ He personifies certain preoccupations of American organic architecture. The structure of his buildings is not merely explicit, but *celebrated*, and their presence evokes feelings of the onlooker. In this he meets Sullivan's declaration that integral ornament should be the 'efflorescence of Structure', and the American tradition that architecture engages the emotions as well as the intellect.¹⁸ And his work has a consistent geometric logic. If Robert Venturi can be said to be re-interpreting modern architecture and commenting¹⁹ on the Shingle Style and the Gable theme in McKim Mead & White's Long House (1887) and Frank Lloyd Wright's own home in Oak Park (1889), then no less can Bruce Goff be said to be continuing the Prairie Style and organic architecture, and commenting on the Eye, in Sullivan's Merchant's National Bank (1914) at Grinnell, Iowa and Lloyd Wright's Wayfarers' Chapel (1951). In Goff's eyes the message of Post-Modernism (the return to articulate witty architecture) is redundant.



Trenton bath house (1955), Louis Kahn



Beach House project (1959), Robert Venturi



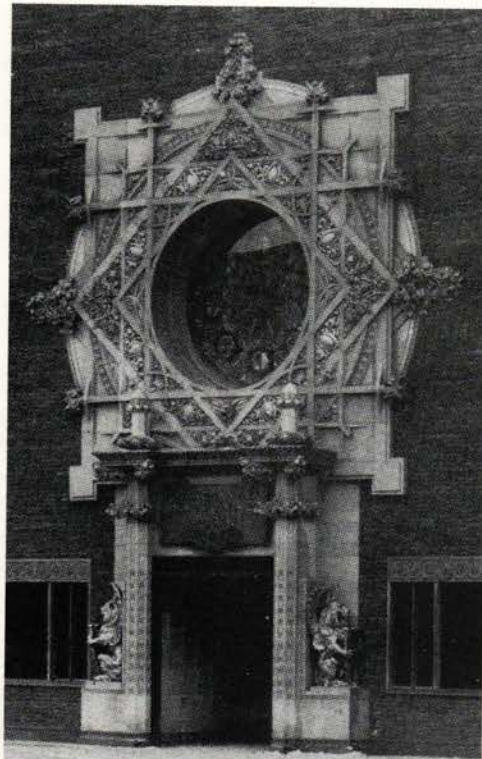
Low House (1887), McKim, Mead and White

Notes

- 1 Julius Posener, 'Functionalism', *Lotus*, II. Quoted by Peter Blundell-Jones in *AAQ*, Vol 10, 1/78.
- 2 Frank Lloyd Wright, 'Broadacre City: A New Community Plan', *Architectural Record*, 4/1935, p247.
- 3 There have been no books on Goff in English until recently: David G De Long: *The Architecture of Bruce Goff: Buildings and Projects 1916-1974*, Garland Publishing, New York, 1977. Jeffrey Cooke: *The Architecture of Bruce Goff*, Crosby, Lockwood, Staples, London 1978. There have been many articles however, especially in home-making magazines and especially during the 1950s, on the 'Goff builds dream-house theme'. He has always enjoyed a degree of popularity that has eluded Venturi and his 'ordinary architecture.'
- 4 Goff has written of his design process: 'The design problem always differs from one building to another. If you work freely with a broad vocabulary of design elements and materials, all disciplined towards the order and character of each problem without a pre-conceived formula, you will arrive at a solution that will fit that particular problem. Saarinen said the solution lies within the problem. I am sure that he knew there was more than one solution; any good architect can design many solutions to any one problem. 'Mies says that he has no use for an architect who thinks he has to invent a new style of architecture every Monday morning; I think you have to invent one for each building, whether it is Monday morning or not.' Paul Heyer: *Architects on Architecture: New Directions in America*. Walker & Co, New York, 1966, pp68-69.
- 5 'One of the students shouted, "I will willingly help in the preparation of the exhibition but I refuse to touch work from the University of Oklahoma".' Takenobu Mohri: 'Bruce Goff and his school', unpublished paper in Bruce Goff's possession, 1953.
- 6 The Hydes commented in their reply to the *AD* questionnaire which we sent out (see 'A Starting Point' elsewhere in this issue) that their 'one room' plan was not satisfactory while the children were teenagers.
- 7 The Price House, Bartlesville, Oklahoma (1956) affected me as follows: the exterior from below appeared as a sprawling, armoured beast of dinosaur dimensions. Close-up, the sun gleamed
- off the ridged, gold-anodised aluminium and the rough coal walls and jagged glass cullets discouraged any contact. Inside was a pressure tent. The soft white carpet reached the ankle bone . . . you could lie on the walls. It took will-power not to tear off your clothes and roll about.
- 8 I would define sparkle as controlled mobile glare. The Hyde House, Kansas City, Kansas (1965) makes particularly skilful use of natural and artificial light: its fire is surrounded with reflective mosaic.
- 9 'The architect must be flexible in his consideration of the client's feelings about materials, colours, space, etc. He should work *with* these rather than try to impose his own preferences upon him. He should endeavour to give the client a solution to his present needs and wants, but he should go further and give him something that continues to offer him more as he lives with it.' Bruce Goff: 'A Young Architect's Protest for Architecture', *Perspecta*, Vol 13/14 (1971).
- 10 When I interviewed Goff at the Milwaukee Conference in October 1977, he described the Duncan problem as follows: Cobden was 20 miles from the nearest town and lacked any builders. To build the rounded fieldstone masonry with unskilled labour, quoins had to be avoided and dressed openings kept to a minimum. Goff set out the serpentine, free-standing walls with styrofoam slabs; the stones were then laid each side so that the setting out method became an insulation layer. The circular openings were restricted to two diameters, laid up on centering. Glazing was held back from the internal wall and run straight across openings to emphasise the thickness of the wall. Ventilation was by the space above and a planter was placed below.
- 11 Elaborated in Sergeant's article: 'Goff's Use of Geometry', published in this issue of *AD*.
- 12 Bruce Goff, 'Notes on Architecture', *Bauwelt*, 1/1958, p11)
- 13 Noted by David De Long, *op cit*. For an analysis of Wright's clients, see Leonard Eaton, *Two Chicago Architects and their Clients: Frank Lloyd Wright and Howard van Doren Shaw*, MIT Press, Cambridge, Mass, 1969; or John Sergeant, *Frank Lloyd Wright's Usonian Houses*, Whitney Library of Design, New York, 1976.
- 14 He joined Rush, Endacott & Rush in Tulsa in 1915/16.
- 15 For example he imported the first publication on the Bauhaus into America. Conversation with Goff, Milwaukee, Wisconsin, Oct. 1977.
- 16 Such as his well-known use of pie-dishes in the interior lighting and oil industry pipework in the structure of his Hopewell Baptist Church (1949) near Edmond, Oklahoma. Quonset hut ribs recur in his post-war work. Waste glass cullet encrusts his 1950s designs and glass ash-trays figure in his 'stained glass'. This has encouraged Charles Jencks to label Goff 'ad hocist' *Adhocism: The Case for Improvisation*, Doubleday & Co, Garden City, New York, 1966 and Academy Editions, London, 1977. Also *Architecture 2000*, Praeger Publishers, New York, 1971, and articles in *Architectural Design* formulating Post-Modernism. This feature is not enough to categorise him.
- 17 Wright, FL: 'In the Cause of Architecture', *Architectural Record* 3/1908, p157: . . . there should be as many kinds [styles] of houses as there are kinds [styles] of people and as many differentiations as there are different individuals. A man who has individuality (and what man lacks it) has a right to its expression in his own environment.'
- 18 Francisco Menocal has traced this concern to German philosophy and in particular the writings of Steiglitz: paper read to the Milwaukee Conference, 'An American Architecture: its Origins, Growth and Horizons', 10/1977.
- 19 Vincent Scully, *The Shingle Style Today*, George Braziller, New York, 1974.



Frank Lloyd Wright's house (1887), Oak Park



Merchants' National Bank (1914), Louis Sullivan



Wayfarers' chapel (1951), Lloyd Wright

BIOGRAPHICAL NOTES ON BRUCE GOFF

Twenty-one years ago *AD* devoted an issue to the work of Bruce Goff. Since then, Wright, Aalto, and Scharoun have all died, and American organic architecture and European Expressionism have both begun to attract re-evaluation. In his architecture, Goff links the distant pedigree of the Prairie School with such current issues (which he anticipated) as imagery and the language of architecture.

As a boy, Goff built a rock garden in the loft of the family home. It grew, was embellished and became a water garden, at which point the ceiling collapsed. Goff tells the story to perhaps explain how it was that his father subsequently took him along to the best architectural office in Tulsa, Oklahoma – Rush, Endacott & Rush – where he was duly apprenticed. He was not yet 12; the year was 1915. By the time he was 22, he had built a major design, the Boston Avenue Church in Tulsa, and he was a partner in the firm by the age of 25. He was designing in a Wrightian manner without knowing of FLW's existence, before discovering Wright's work in 1908 *Architectural Record* – a copy kept locked up by E A Rush for design consultation. He absorbed what he saw, and subsequently wrote admiringly to the Master, receiving in 1916 a gift of one of the few English editions of the *Wasmuth* portfolio.¹ By 1920, he was in correspondence with Sullivan and had discovered Otto Wagner and Gaudi. He devoured what culture percolated to Tulsa and sought every contact. By 1926 he had met Iannelli, the sculptor who worked with Wright on Midway Gardens, Chicago, and through him Barry Byrne, who completed his own Tulsa church in that year. He watched every stage of construction of the Lloyd-Jones house of 1929: Wright at his most geometric. By 1934 he had moved to Chicago and the following year made the first of several visits to Taliesin.

The pre-war houses around Chicago show Goff assimilating the influence of Wright and possibly Buckminster Fuller (the Triaxero),² and inventing a mature and personal architecture. The war, however, introduced a new dimension to his work. Designing and building for the military forced him to utilise 'as-found' materials, as wartime shortages meant that others were not available. The immediate result was unheard-of uses for Quonset (Nissen) huts, including the radial 'umbrella' Ford house of 1948, and a readiness to incorporate ad hoc materials in some subsequent designs. The previous year saw the start of Goff's interest in architectural education, which continues to the present, with his chairmanship of the School at the University of Oklahoma. He made it nationally known and it was visited and admired by both Wright and Eric Mendelsohn. His stance was set firmly counter to the two Miesian decades which were to follow; at an IIT lecture his Thoreauesque quip: 'if you build a better Mies trap, the world will beat a path

to your door', probably cut little ice.

The years until 1956, when he stopped full-time teaching and moved to Bartlesville, Oklahoma, were productive for Goff with 17 out of 41 commissions built. These included his most celebrated design, 'House for a Lover of Plants', the spiral Bavinger house of 1950, and one of his most interesting projects, the Crystal Chapel of 1949 for the University of Oklahoma. The first can be compared with Wright's Guggenheim Museum (1943-59), and the second with his Steel Cathedral project of 1926. In Bartlesville Goff became the only person to use Wright's tower in the manner intended; he maintained his office with his apartment in the double-height section building. One day a posse of Taliesinites apparently appeared, ignored Goff, went to the far corner and looked up the double-height purring 'Aah . . . SPACE!' BG padded over, craned his neck and enquired 'Space? Where is it?' In Bartlesville Goff had his first, and most ungeometric, design for Joe Price's Studio abandoned after criticism by Wright; however, a new design was built and Price became one of Goff's most important clients. 31 to 74 commissions were built, including the excellent Molsenbocker, Pollock, Gutman, and Jones houses. In 1959, Frank Lloyd Wright died. Steve Mooring worked for Goff in that year. In 1961 Herb Greene built his Prairie House near Norman.

From 1964 to 1970 Goff practised from Kansas City, Kansas, and subsequently from Tyler, Texas. In his seventh decade he is working on a gallery for the Metropolitan Museum of Art's Japanese collection, and continues to be active in design and as a visiting professor and lecturer at a number of universities. He has just completed the third phase of the Price studio and home.

Notes

- 1 *Ausgeführte Bauten Und Entwürfe*, Berlin 1910. In 1914 all the English editions were destroyed in the fire at Taliesin.
- 2 The second Dymaxion house was made by the Beech Aircraft Corp of Wichita, Kansas and was accessible to Goff.

- 1904 Born June 8 1904 in Alton, Kansas.
1910 Began school in Skiatook, Oklahoma.
1916 Entered the office of Rush, Endacott & Rush, architects, as apprentice, Tulsa, Oklahoma.
1918 First house of his built in Tulsa, First publication of his work in a national journal.
1922 Graduated from Central High School, Tulsa, Oklahoma.
1922-29 Full-time apprentice in the office of Rush, Endacott & Rush.
1923 Designed 14-storey Chamber of Commerce, Tulsa Club built in Tulsa.

- 1926 Designed the Boston Avenue Church built in Tulsa and widely published here and abroad.
1929 Passed licence examination as registered architect, without formal architectural schooling.
1929-33 Partner in the firm of Rush, Endacott & Goff.
1934 Moved to Chicago; Associated with sculptor Alfonso Iannelli, and opened his own office.
1935 Part-time teaching at the Chicago Academy of Fine Arts for 7 years.
1935-36 Director of Design Department, Libbey-Owens Ford Glass Co, in Chicago and Toledo, Ohio.
1936-41 Practised architecture in Chicago.
1941-45 Served in USN Seabees (construction battalions) during World War 2 as architect in the Aleutian Islands and California.
1945 Opened own office in Berkeley, California.
1947-56 Invited to serve as Chairman of the School of Architecture at the University of Oklahoma, Norman, which position he held until his resignation in 1956; he also lectured extensively at other schools across the nation and continued his own practice.
1956-64 Continued his practice in Bartlesville, Oklahoma in Frank Lloyd Wright's Price Tower.
1964-71 Moved office to Kansas City, Mo.
1964-71 First visit to Japan sponsored by Joe Price and Kenchiku Publishing Center, lecturing and exhibiting at Kukuoka, Kobe, Nagasaki, Osaka, Kyoto and Tokyo. First complete monograph, *Bruce Goff in Architecture* by Takenobu Mohri, published in Japan. Also visited Thailand and Bali.
1971 Moved office to Tyler, Texas, continuing practice, Exhibitions, publications, painting and lecturing at many architectural schools, conventions, etc.
1974 Invited to Japan and sponsored by the 'Sky-Land Harmony' land developers to help them with a project north of Tokyo.
1976-78 Carrying on architectural and educational work and assisting with many publications, national and international; giving talks, seminars and exhibits at Columbia, Yale, MIT, and other universities in Canada and the USA. Besides his work in architecture and education, he has continued painting since 1920 and has a passionate interest in modern music and in native cultures in Asia, Pacific Islands, Africa, and other regions of the world.

Lionel March:

BRUCE GOFF and 'THE ARCHITECTURE OF HAPPINESS'

I cannot now recall the name of the house. It is nearly 20 years since I came across it, snugly rooted in an old-world cottage garden. The walls were thick, oozing mortar set with irregular roman bricks. Under deep shadowy eaves peeped small leaded-lights. The roof displayed richly textured tilework. Up a few steps, the oak front door bristled with hand-wrought nails and was furnished with antique ironwork. To the right, at one end of the long, low building, the detailing of the front door was magnified in the two oak doors to the garage. The doors were hung, left and right, on three pairs of wrought iron strap hinges and held closed in the centre by a large matching lock. These doors, befitting a fortified manor, confronted the homecoming limousine. As the car drew close, it triggered off the automatic opening of the garage. In one single piece—oakboards, nails, hinges and locks—the canopy moved up and over, sliding lightly into position to expose on the underside its standard, mass-produced origins. The car was home with its owner—an investment broker, family-man and middle-American; but for all that, a rare kind of person, a patron of Bruce Goff—and evidently a man who enjoyed the taste and wit to be found in this house, this architectural portrait of himself.

Critics clearly have difficulties in placing Goff within the architectural spectrum. I have just inspected some half-dozen general books on American domestic architecture published since 1960 and cannot find his name or work mentioned even once, and three of the books at least have a marked bias towards organic architecture. Goff's work has appeared on occasion in articles on *visionary* or *fantastic* architecture. In my view this classification is profoundly wrong, and points to a shallow understanding of the cultural tradition within which Goff works.

Central to the tradition I am speaking about is transcendentalism, the philosophy and way of life espoused by Ralph Waldo Emerson, Henry David Thoreau, and their New England companions, and later celebrated by Walt Whitman in *Leaves of Grass*. Transcendentalism in low key pervades American society as a counter-force to the prevailing and dominant Protestant ethic, rather in the same way that Taoism countered Confucianism in traditional China. Some form of the transcendentalist philosophy will be found in most alternative movements in the United States. Allen Ginsberg in the late 50s could still turn and ask in 'A Supermarket in California':

Where are we going, Walt Whitman? The doors close in an hour. Which way does your beard point tonight?

From its beginnings in German philosophy following Kant, Fichte, and Schelling (the so-called *Naturphilosophie*), and its English language promotion by Coleridge, transcendentalism has supported the *poetic* enterprise in preference to the materialism of the business world. In religious terms, transcendentalism has affinities with neoplatonism, Buddhism, Taoism, Zen, and various theosophical movements.

In architectural studies, the writings of the American transcendentalists have often been cited to support the rustic virtues of the plain and simple:

Hence our taste in building rejects paint, and all shifts, and shows the original grain of the wood; refuses pilasters and columns that support nothing, and allow the real supporters of the house honestly to show themselves. (from 'Beauty' in Emerson's *The Conduct of Life*)

... I passed some cheerful evenings in that cool and airy apartment, surrounded by the rough brown boards full of knots ... I sometimes dream of a larger and more populous house, standing in a golden age, of enduring materials, and without gingerbread work, which shall still consist of only one room, a vast, rude, substantial, primitive hall, without ceiling or plastering, with bare rafters and purlins ...

(from 'House Warming' in Thoreau's *Walden*)

At its most sublime this theme may be illustrated by the work of the Shakers; while its vulgar interpretation is found in the architecture of the dwarf's cottage in *Snow White and the Seven Dwarfs* and Geppetto's studio in *Pinocchio*. In these settings, Disney recalls times of innocence and simplicity. In contrast, Disney uses robber-baron gothic to house his villains: the craggy castle of Snow White's stepmother and the sombre mansion of Cruella de Vil in *One Hundred and One Dalmations*.

Now, my argument is that while it is clear that the transcendentalists rejected both the gingerbread and academic eclecticism in the buildings of their time, it is not at all obvious from their meagre architectural statements as to what kind of architectural expression their philosophy might lead. If Thoreau's one-room, self-built cabin is taken as

a model, then architecture stops there—the primitive hut. It would be as if, in music, limits were to be set by the beat of a tom-tom, and yet it is widely recognised that transcendentalism in music finds its finest expression in the polyphonic and complex compositions of Charles Ives. Transcendental 'simplicity' must not be taken literally, nor must limits be placed on what can and cannot be done; after all, their heroes were Michelangelo, Beethoven and Goethe!

Where then might transcendentalism take architecture? Lewis Mumford quite rightly saw its influence in the work of Frank Lloyd Wright, but projects such as the glittering Huntingdon Hartford Play Resort, or the exotic plan for Greater Baghdad, and late buildings like the Greek Orthodox Church, Marin County Center, and the Grady Gammage Memorial Auditorium must remain perplexing to those who would confuse transcendentalism with a naive return to nature and the plain and simple.

It was Edgar Allan Poe in his tale 'The Domain of Arnheim' who first unravelled this problem as far as I was concerned. The story is about a very wealthy man called Ellison who, free of worldly cares, sets out to create a paradise. He is deeply interested in landscape architecture, of which there are two styles: the natural and the artificial.

One seeks to recall the original beauty of the country, by adapting its mean to the surrounding scenery; cultivating trees in harmony with the hills or plain of the neighbouring land; detecting and bringing into practice those nice relations of size, proportion and colour which, hid from the common observer, are revealed everywhere to the experienced student of nature.

The artificial style has as many varieties as there are different tastes to gratify ... Whatever may be said against the abuses of the artificial landscape-gardening, a mixture of pure art in a garden scene adds to its great beauty. This is partly pleasing to the eye, by the show of order and design, and partly moral. The slightest exhibition of art is an evidence of care and human interest.

Poe, through Ellison, rejects the natural approach for the artificial:

From what I have observed you will understand that I reject the idea, here expressed,

Reflections on Jeffrey Cook's Book:

of recalling the original beauty of the country. The original beauty is never so great as that which may be introduced. . . . What is said about detecting and bringing into practice nice relations of size, proportion and colour, is one of those mere vaguenesses of speech which serve to veil inaccuracy of thought. The phrase quoted may mean anything, or nothing, and guides in no degree. That the result of the natural style of gardening is seen rather in the absence of all defects and incongruities than in the creation of any special wonders or miracles, is a proposition better suited to the grovelling apprehension of the herd than the fervid dreams of the man of genius . . . In truth, while that virtue which consists in the mere avoidance of vice appeals to the understanding, and can thus be circumscribed in rule, the loftier virtue, which flames in creation, can be apprehended in result alone. Rule applies but to the merit of denial—to the excellences which refrain. Beyond these, the critical art can but suggest.

What better phrases to describe the architecture of the Shakers or Disney's heroes and heroines than 'the mere avoidance of vice' and 'the merit of denial'. But in favouring 'the fervid dreams of the man of genius' and 'the creation of special wonders or miracles', Poe does not succumb to fancies of the picturesque. Indeed, he recalls the neo-platonic ideal which fired Mannerism when he has Ellison imagine

A landscape whose combined vastness and definitiveness—whose united beauty, magnificence, and *strangeness*, shall convey the idea of care, or culture, or superintendence, on the part of beings superior, yet akin to humanity—in which the sentiment of *interest* is preserved, while the art interwoven is made to assume the air of an intermediate or secondary nature—a nature which is not God, nor an emanation from God, but which still is nature in the sense of handiwork of the angels that hover between man and God.

This is Poe's own way of distinguishing between *fancy* and *imagination*, a distinction drawn by Coleridge and enthusiastically taken up by Emerson:

Imagination is central; fancy, superficial. Fancy relates to surface, in which a great part of life lies . . . Fancy is a wilful imagination, a spontaneous act; fancy, a play as with dolls and puppets which we choose to call men and women; imagination, a perception and affirming of a real relation between a thought and some material fact. Fancy amuses; imagination expands and exalts us. Imagination uses an organic classification. Fancy joins by accidental resemblances, surprises and amuses the idle; but is silent in the presence of great passion and action.

(from 'Poetry and Imagination' in Emerson's *Letters and Social Aims*)

Again we are reminded of a distinction between surface realities and some deeper realm beyond appearances. Transcendentalism, through Coleridge and his German readings, distinguishes in the human intellect two faculties: *understanding* and *reason*. The former faculty judges phenomena, or the appearance of things, and forms generalisations from these: while the latter, by direct intuition, perceives things and recognises truths, not cognisable by our senses. The appearances in nature are seen as an ever-changing manifestation of some *principle*. To use the well-known simile of Carlyle, in *Sartor Resartus*, nature appears before us as if in a costume-parade. The external world has no real existence. It is only phenomenal.

The proper and higher use of the material world is to furnish us types of pictures to express the thoughts of the mind.

This train of thought in transcendentalism led to Emerson's remark that 'Nature itself is a vast trope, and all particular natures are tropes', or figures of speech:

All thinking is analogising, and it is the use of life to learn metonymy. The endless passing of one element into new forms, the incessant metamorphosis, explains the rank which the imagination holds in our catalogue of mental powers. The imagination is the reader of these forms. The past accounts all productions and changes of Nature as the nouns of language, uses them representatively, too well pleased with their ulterior to value much their primary meaning. Every new object so seen gives a shock of agreeable surprise.

(from 'Poetry and Imagination' in Emerson's *Letters and Social Aims*)

To recapitulate: the transcendentalist shows less concern with outward appearance than inward structure. He does so on two distinct grounds. One is the evidence he accepts through his senses that Nature is constant creation, endless metamorphosis, an assumption of transient forms by matter; and the other is that he perceives symbolically by naming phenomena and by forming these symbols into *a priori* patterns which external facts may or may not affirm. It matters not: these symbolic patterns have a life of their own and to develop such patterns is the chief use of the material world. The symbolic world is the province of imagination and reason.

The symbolic world is also the source of all poetic activity, all creativity. For this reason the transcendentalist sees the symbols in his mind as providing mediation between Nature and God. However, although the symbolic patterns are woven in his own mind, in Emerson's words, 'a deep insight will always, like Nature, ultimate its thought in a thing': ideas are objectified in material form:

The thoughts are few; the forms many; the large vocabulary or many-coloured coat of the indigent unity.

It is to be expected, once material fact has been transmuted into symbol, that the transcendentalists would develop the language metaphor: alphabet, vocabulary, grammar, syntax. It appears contemporaneously in Melville's novel *Pierre*:

Say what some poets will, Nature is not so much her own eversweet interpreter, as the mere supplier of that cunning alphabet, whereby selecting and combining as he pleases, each man reads his own peculiar lesson according to his own peculiar mind and mood.

The transcendentalists were fascinated by transformations. The immense growth of chemical and industrial processes were watched with interest, as were developments in energy production (Faraday was the great magician), and crystal formations became the standard poetic image, even more so than the butterfly, to represent metamorphosis. Ruskin, sometime later, was to compose his *Ethics of Dust* on the principles of crystal growth, a Goethean challenge to the scientific treatises of its day. Perhaps the most repeated story is the one about rotting trees becoming peat, then coal, and finally diamonds. It is, of course, the rags to riches theme of the Protestant ethic itself. Indeed transcendentalism, which embraced evolutionary theory for the world of poetry, found itself a bed-fellow of social Darwinism in the commercial world. The *individual* and *democracy* could mean very different things in the two worlds, and much confusion exists because of this.

The transcendentalist theme gives emphasis to the symbolic, it analogises and models through metaphor, it claims the facts of the world for the alphabet of its language. Independently new facts — artifacts — are generated and are then materialised to take their place in the world, becoming a source for novel transformations. Nothing in the world is in itself ugly or beautiful: things become beautiful through their relationship with other objects. 'The beautiful', according to Goethe, 'is a manifestation of the secret laws of Nature which, but for this appearance, had been forever concealed from us'. Full circle — the favourite geometrical figure of transcendentalism: beauty is not concerned with external aspect, it is perceived only in harmony with the innermost structures of Nature.

Bruce Goff I claim to be a transcendentalist. He is an architect of *reason*. His works are not fantastic, but they are, in a very precise sense, *imaginative*. His architecture is symbolical, and if one accepts man as *homo symbolicus* then appropriately it is also functional, as transcendentalism requires.

Geoffrey Cooke's new book, *The Architecture of Bruce Goff*, lends support to my claim. The book is not a compendium and does not set out to be so. It examines with care and affection a small part of Goff's output. Starting with the early work for Rush, Endacott, and Rush in Tulsa, Oklahoma,

'The Architecture of Bruce Goff'

then his subsequent work in partnership with Rush and Endacott, his period as head of Libbey-Owens-Ford Glass Company's design department, and then the war years spent with the Seabees, the foundations for Goff's subsequent work are well laid down. The crystalline geometry of the Boston Avenue Methodist-Episcopal Church in Tulsa, 1926-29, is echoed by Hugh Ferriss's images of the future city of the same date; the rich Tiffany glass-work in the First National Bank, Tulsa, 1922, and the geometrical pendant light-fittings in the Convention Hall, Tulsa, 1930, look forward to his specialist work for Libbey-Owens-Ford and beyond to that characteristically lapidary use of glass in his post-war buildings; and the Seabees Chapel . . .

The Seabees Chapel is an explicit example of transcendentalism in action. The Quonset system consisting of curved, corrugated metal shell was ubiquitous throughout the western hemisphere during the second world war. The semi-cylindrical form spotted the landscape like some poxy infection. Goff takes this system (fit in the popular mind only for the scrap-heap) and transforms it into a place of worship. This is a symbolic act, a religious statement profounder than all the art in Coventry. What is miraculous is that, while Goff could conceive of this symbolic shift from profane to sacred in his mind, he could carry this metamorphosis through in building terms to overcome the deep, antipathetic prejudices of the users. 'A shoe box may become a jewel case' to quote Emerson again.

Following the second world war, Goff takes up the Chairmanship of the School of Architecture in Oklahoma until 1955. These are the years of the Ledbetter House, Norman, in which the humble Woolworth ashtray multiplied a hundred-fold is arrayed jewel-like to touch both the incoming and outgoing rays of light. Mass-products are wonderful in mass! The years of the Ford House, Aurora, Illinois, in which simple geometrical shells house a free-flowing plan. The floating pads appear, hovering around a central pylon. And these reappear in their maturity in the famous Bavinger House back in Norman, Oklahoma. Here the pads give the impression of a time-lapsed sequence of a rising UFO spiralling around its path of ascent. The carpet is no longer a door-mat, it becomes seat and settle, and up, over, and under it becomes the ceiling. Transcendental mutation: the carpet, a floor; the carpet, a seat; the carpet, a ceiling. Metonymy in architecture! I love it! Yes, and then there are all those second-hand pieces of pipe-work and steel hawser: fit for the rubbish dump, or fit to support and suspend (in disbelief) a work of pure plastic invention. This is a house and setting that would have satisfied Poe: gnomes, hobgoblins, faeries, sylphs — some happy band of angels undoubtedly helped. The Wilson House, Pensacola, is entirely ship-shape as befits a Rear-Admiral. It alone reminds me of other architects' work: the prefabricated 'aggregation of space units' projected by George Nelson and Gordon Chadwick. However, their project came five or six years later.

The book ends with three further chapters in 'The Office Years, 1956-1969', 'The Mature Years,

1970-1978', and 'An Appraisal'. It was during the so-called Office Years that I visited Bruce Goff's undoubted masterwork, Joe Price's Starview Farm just outside Bartlesville. I had seen by then scores of Frank Lloyd Wright buildings. I had already pulled away from the crude natural materialism expounded by Henry-Russell Hitchcock: it simply was not good enough for what I had seen. And sitting in the office of Hal Price, Jnr, with its Flash Gordon furnishings and multi-coloured glass mural — all supervised by Wright — it was for me a question of giving up or going on. Was the Master senile? Was this dementia? Or was this the youth of maturity: the final efflorescence, much like the extraordinary blossoming of a cactus after so long a growth? Price turned to me. Philip Steadman was there too. 'Have you seen my brother's house?'

The house is too well known to be described again in detail: the nine foot by six foot bed cantilevered from a pylon of anthracite and glass cullet masonry, screened by stained-glass from outside view, and approached across an all-white shag carpet; the all-gold bathroom; the cupboard containing Arabic attire fit for a harem; the standard Marshall Fields kitchen units painted gold and not often mentioned, the magical sequin-work on the front door and round the corner, a spidery web of nylon bejewelled again with flashing sequins. Poetic symbolism meets its match in architectural expression: outwardly such luxury and licentious appearance, but inwardly extraordinary simplicity and discipline. The alphabet was there to gather in the world, the patterns were the work of pure reason and calculated judgement. It should be added that the execution is first-class.

The sequins turned up again like a *leitmotiv*. Philip Steadman and I drove to Kansas City to find Goff. His office was in a well-rounded brick building by John Root. We walked along the muted polychromatic corridor past misty glass doors. The door we were looking for was occupied: through the opaline could be seen a shadow of an arm, high up. The shadow moved closer and a sequin sparkled through the glass. Goff was at work decorating his own door. A large table was covered with trays of sequins and other decorative materials. He continued to work as he talked.

The later works of Goff show an increase in geometrical discipline. Geometry holds a special position in transcendentalism. In a way it is the ideal thought pattern: abstracted from the world, its dematerialised symbols may be formed into new and universal statements. Geometrical expression, as Emerson remarks, is something we can choose to have irrespective of money, to shape materials one way or another is a conscious decision and is a mark of intellectual effort but not necessarily physical effort or economic cost. The closed forms used by Goff are transcendental marks of universality. Therefore, it is of no consequence where ephemeral uses of the home are located with respect to the symmetry. To think so is to commit the functionalist fallacy that 'form follows function' in some matter-of-fact way. When the chief function is to create happiness in a deeply

satisfying sense, then subordinate functions of a contingent kind may take second place.

The brilliant parade of designs goes on: each and every one unique and individual. Formal principles are few, but the material occasions are without end. The alphabet may be limited, the grammar defined, but the language knows no bounds. All phenomena are potential materials for the artist's palette. It is through imaginative selection and combination that reason transforms, *unus e pluribus*. The work presents a mystery, a strangeness. It advertises the intellectual, human contribution of its very being. The artificial style, Poe said, has as many varieties as there are different tastes to satisfy. Why simply avoid vice? Why elevate the merit of denial? How do such prohibitions lead to happiness? Salute then Bruce Goff: post-modern architect and master; architect of happiness.¹

Notes

- 1 This is no loose phrase. Readers might care to re-read Walter Gropius's address to CIAM on the occasion of its 25th anniversary in W Gropius: *The Scope of Total Architecture*. In fact his speech is very largely based on Joseph Hudnut's chapter, 'The Post-Modern House' in *Architecture and the Spirit of Man*.

The Architecture of Bruce Goff

J Cook; Granada Publishing Crosby Lockwood Staples; 144pp + 8 colour illus, cloth £10.50; Harper & Row, \$20.00

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Charles Jencks:

BRUCE GOFF:

The Michelangelo of Kitsch



Recall your worst architectural experience; think back to the moment when you entered that sleazy bedsitter all decked out with its bathetic knick-knacks and *el cheapo* furniture. Remember your first encounter with the sad, pretentious world of Babbit, of lower-middle class taste run amok with chintz on the kitchen cabinet, of Ideal Home decor, of plastic strip-on chrome, in short of Yuk-Taste. Remember the revulsion, the horror followed by simple distaste? The basic discovery that schlock is unredeemable, beyond the pale, even too much for Robert Venturi and friends to rescue? Well you were wrong, there is a poet of the unredeemable and his name was Bruce Alonzo Goff (*was*, because the Alonzo was dropped after an early attempt to mimic the three-worded Frank Lloyd Wright, his constant friend and paragon). Goff is a better architect than Wright, 'Wrightier' one is tempted to say, at least when it comes to the obsession with geometric themes and ornamentalised geometry. His spatial flow is flowier, his houses are much funnier and lighter and cozier. His yellow-pea-green thick pile carpets climbing off the wall and into the conversation pit are thicker than Wright's. So, asks the department of Architectural Justice, why isn't Goff on a two-cent US stamp like his *liebermeister*? That is a question which all Americans, concerned with popular taste, should ask themselves.

Undeniably Goff's houses are popular with those who live in them. They are also popular as a form of entertainment, one might even say

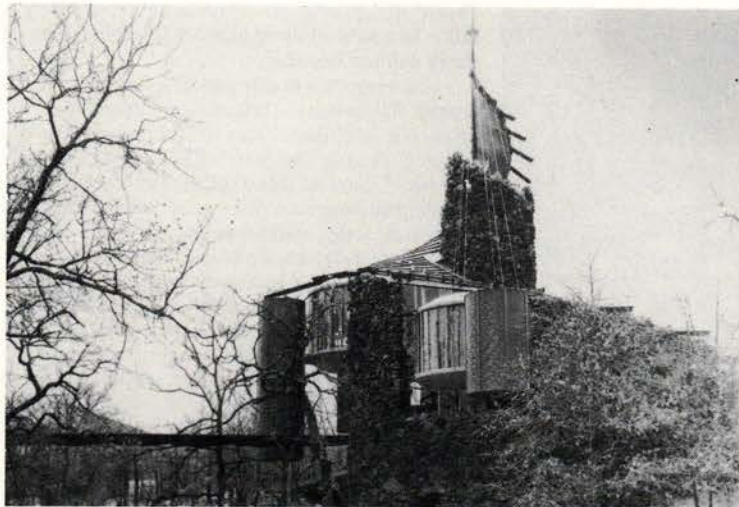
The Glen and Luetta Harder House, Mountain Lake, Minnesota, 1970-72. Orange carpets and orange rain plates dance across the prairie plains around the rugged fieldstones over the waving corn and near the clucking turkeys. Architecture that is responsive to local metaphor, to the animals of the farmyard, architecture suggestive of previous work, Richardson citadels, and Japanese eaves. In plan the buildings have a symmetry and centrality not so apparent on the exterior: giant chimneys, made from rounded fieldstones with hidden mortar, are at opposite ends of a long space which focuses on a larger fireplace, the 'heart' of the home. Conventional ornament is transformed, not disregarded: a continuous line of light bulbs follows the exposed ridge beams; glazed mosaic tile contrasts with the fireplace boulders; strip lighting is between bolted two-by-twelves with exposed bolts and triangular mirror mosaic. The ultimate ad hoc ornamentation? Buttons, sequins, and artificial insemination tubes – for turkeys – were used as see-through decoration.

'performance', having been featured in *Life* magazine, *Popular Science* and a Chevrolet trade magazine called *Friends* (a fact which leads to more commissions). Build one 'Umbrella House' and the Mid-Western Harder family who see it while getting a grease job on their Chevy will have you build them a Japanese 'Turkey House'. Why a house that looks like a lot of clucking turkeys – and with orange carpet on the roof? Because the owners are turkey farmers, and conscientious objectors, and

Goff has just returned from Japan where he has seen endless upturned roofs and orange is the colour of turkey combs, and besides outdoor carpet is probably a good roofing material¹. And why not? After all this is the Mid-West where there are no Vitruvian rules, and where free-association architecture has always had a hold. It's the architecture of allusion, of throwing together parts *ad hoc* – for the specific purpose of making something new and saving cash. Orange outdoor carpet on the roof! (Liberace at least put it on the ground, and it was green). According to a time-honoured formula, one never does this sort of thing on the *outside* of a house, where it causes traffic jams. It could never happen in Boston ('I don't mind what you do, as long as you don't do it on the street where it will frighten the horses.') It would never happen in London, as Inigo Jones insisted ('Outwardly every wise man carrieth a graviti in Publicke Places, yet inwardly hath his imaginancy set on fire, and sumtimes licenciously flying out, as nature herself doeth often times stravagantly.')

However in Mountain Lake Minnesota, it's the *outside* that sumtimes licenciously flies out with its orange, pulsating thick-pile, and its swooping corner chimneys, its random turd-like rocks held together with 'outta-sight' Japanese mortar, its floating swallow-tail rain plates which hover over the flues like so many Calder mobiles – orange carpet!!! It will frighten the turkeys. . .

When Bruce Goff finished the Ledbetter House in Norman Oklahoma in 1947, with its interior lily



Bavinger House, Norman, Oklahoma, 1951-5. A continuous open space spirals up in which various saucers of living space are suspended: no doors or partitions in the conventional sense, but instead a division by plants, carpet on the ceiling and fish net. The house was built by the owner, an artist, and his wife, from various sources, including a 55 foot mast made from two deep-well drilling pipes, rubble masonry, sewing machine frames (used as scaffolding), biplane braces, and 'bomber-blisters' used for light fixtures and lavatory wash bowls.



Hyde House, Kansas City, Kansas, 1965. This house, constructed for Dr Hyde and his family, features the green Woolworth ashtray – here skewered way out, nine of them placed on the diagonal, to enclose a night light. Such long cantilevers jut out all over the roof, giving it the vague appearance of a multiple-bug-eyed Martian insect with, of course, Indian decoration. The roof of the house is thankfully flat, something that saved it from the tornado that went directly overhead. Other 'Prairie Style' details include clerestory lighting and low overhanging eaves.

pond garden-cum-waterfall ramp and Woolworth Ashtray Decoration (forget your old Egg and Dart), 14 500 people from Norman trudged through the house in a two-day charity event – and Norman only had 22 000 people. It was the 'largest non-athletic event in Norman's history', and as one appreciative Normatron said, 'It's the biggest thrill since my first ride on an elevator'². Goff has turned architecture into a performance, a popular art form that *happens* and doesn't just sit there dumb-founded holding onto its reinforcing bars. When the Bavinger family built their own Goffhouse in Norman (Goff gets his clients so involved they have to give up their normal work) their spiral, helicoid house, their SNAIL HOUSE, 50 000 people came out to watch over the years, and the Bavingers, knowing a performance art when they see one, charged the people an entrance fee – 1 dollar per view, \$50 000 just to see this crazy snail get built out of stone³. It helped pay for the house. But the Bavingers and Goff didn't stop exploiting life there. Two-thirds of the house is thrown together out of used parts, cast-offs, rocks which had been cluttering up neighbouring farmland, walnut trees that had blown down (the stair-treads are solid walnut) 60 shiny, stainless steel cables which cost them five cents each (and that wasn't much in 1952).

These steel cables are in fact biplane braces, lifted from their airborne context and hung on a central mast – which itself is robbed from the oil-drilling industry. Adhocism, *bricolage*, coping with what's at hand, do-it-yourself, what Reyner Banham called *à propos* Goffism 'the Army and Navy Surplus Aesthetic' (he left out the Airforce)⁴. Goff's greatest *ad hoc* victory on this site was not the carpet on the ceiling, not the fish-net balconies swooping over 20 open feet of indoor conservatory living ('You don't use a vacuum cleaner here, you clean with a hose.') . . . but the lighting fixture in a conversation pit, a glass bowl under the parents' sleeping pod, which is kind of a conver-

station piece, which is in fact . . . an old gunner's bubble robbed from a B52 bomber, a bombardier's blister, the thing you look out of at 20 000 feet! ADHOCISM! Fantastic. But. . .uh, why bother??? Especially when they make a similar kind of glass bowl anyway, *real* lighting fixtures. Because behind Goff and these Mid-Western Yankees is a kind of pride in doing it the hard way, and not paying for it, a pride in using coal waste as rustication (black anthracite as basement), discarded glass cullet as a decorative crystal. . .which tells the time (the shifting sun changes prismatic hue, 'can you give me the colour please?'), a pride in using old cellophane strips below a skylight ('PLASTIC RAIN'), a pride in using creosote rope as a decorative moulding, cake tins as light reflectors, translucent coasters over the High Altar of a church for oil drillers (more plastic rain) and goose feathers cuddling a skydome . . . YUK-TASTE...yuk, yuk, yuuuckk.

Metaphors and Taste Cultures

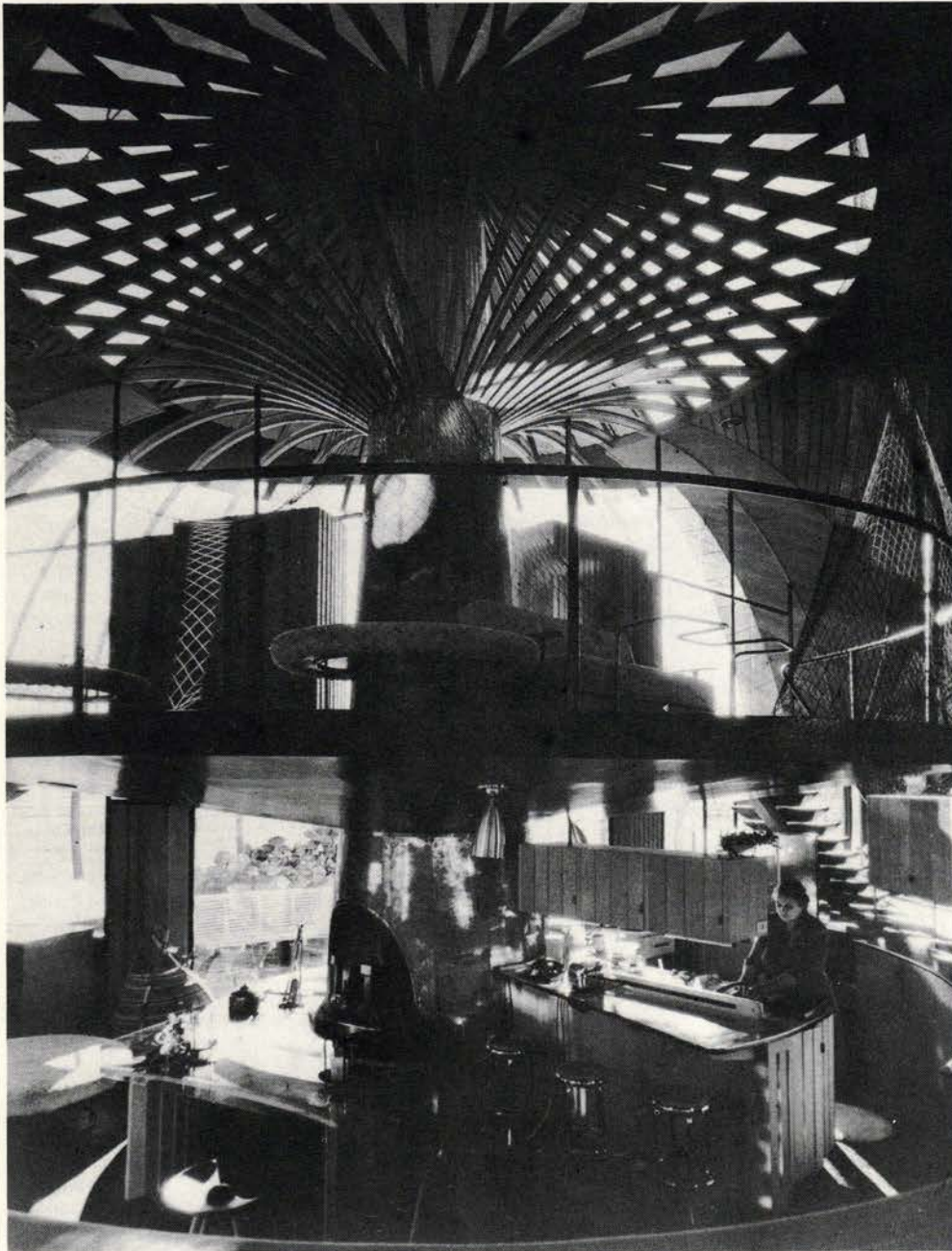
When Goff designs a house (and 98% of his commissions are private houses for the just-arrived Mid-Westerner), he designs it like an Abstract Expressionist – from rhythmical themes, rather than from explicit visual images. He composes a two-dimensional abstraction, building up by stages according to a method comparable to the early abstractionist Kandinsky – 'from point, to line to form'. The end forms can be either hard and geometric, like the hexagonal shingle of the Nicol House, or soft and flowing like the glutinous curves of the Gryder House, or a combination of both, as in the Harder House already mentioned. In any case they are inspired by geometry, the paintings of Klimt or the music of Debussy – kind of unleashed on the world after an initial inspirational uncorking by one of these sources. The rhythms take over, a design idea emerges, some damn hexagonal pattern becomes so obsessive that it marches right through the bedrooms and bathrooms (hexagonal toilets?) and erupts way outside on a cantilevered pole, as Holy Christmas, a green, Woolworth, translucent outdoor, night-light. What the hell are these green, bug-eyed, sparkling Woolworth ashtrays doing in our Kansas City suburb anyway??? Everywhere else are colonial clapboards and Half-Witted Tudor with their sprawling lawns and gentle refeenment and then comes these glowing, schlocky Five-and-Dime cigarette coffins that march all over the house, and even right up the front door. What does Dr Hyde think he is doing!!! It'll run down the neighbourhood, all that plastic rain on the inside, and soon we'll have neon, and

billboards, and yes, the arrival of the Great Unwashed. (Goff's first teacher Endacott, of Rush, Endacott and Rush, where he apprenticed at the age of twelve, 12!, confided to the young designer that the Tulsians *are* the great unwashed, when seen from the well-groomed shores of the East Coast.⁵)

Actually, Goff's clients are, for the most part, sensible professionals like Dr Hyde – bankers, artists, farmers, collectors of Americana, Mid-Western self-made individualists – who have seen or read about a Goff house and like the aesthetic of low-cost, *ad hoc* building. As Jeffrey Cook says, 'Goff has orchestrated the great dreams of small people and not the reverse', not the Palladian or Miesian fantasies of the Fords and Rockefellers.

The surprising thing is that with a method of abstract design, which could be almost Modern and Miesian in its abstraction, very representational buildings result, quite by chance. And it is these implicit metaphors which have proved so popular with a certain taste culture. The Ledbetter House, 1947, was seen as a 'solar house', and the first to be featured in a *Life* article as some kind of freaky Martian deposit. The Ford House, Aurora Illinois 1948, was inevitably called the 'Umbrella House' because of its explosion of quonset ribs around the central mast. But, as the usual mixed Goffian metaphor, it was also called the pumpkin, the tomato, the spider trap, hangar, Hollywood Spaceship, and fat sprout flanked by cotyledons. In short, the metaphors fixed to these strange new shapes were mostly organic, as they were with those applied to Antonio Gaudi's somewhat similar work in Barcelona 50 years earlier.

Indeed if Goff has an obvious precursor it is not so much Frank Lloyd Wright, whom he does claim as the influence, but the much more fantastic Catalan who also took nature and rhythmical construction as his departure points. Both Goff and Gaudi are led to excess as nature is, whereas



Ford House, Aurora, Illinois, 1948. Quonset ribs radiate from a central core which marks the heart of the house. The immediate associations are with natural forms – an explosive fountain, a sunburst or flower blooming out. Salvaged, creosoted rope is used decoratively for important areas around the

Wright, except for his later work, remains more balanced and moderate. One can imagine Goff producing the equivalent of a century plant, a venus fly-trap, a passion flower – in fact he has produced a 'liveable orchid' at the Gryder home, whereas Wright, more often than not, stayed away from such conceits as his 'Hollyhock House'⁶. For Goff, as for Gaudi, 'originality is going back to origins', that is nature; deriving ornament from crystalline structures, plant-forms, insect forms. Occasionally they both derive ornament from mechanical left-overs such as used sewing-machines⁷. The major difference between these two adhocists is that Gaudi was motivated by

front door and coal waste, and glass cullet are used to cast a coloured light which, if the sun is shining and the owner thinking, can indicate the time. The 'Umbrella House' raised some eyebrows in suburban Illinois, and the Fords put up a temporary sign, 'we don't like your house, either'.

social, religious indeed public symbolism, whereas Goff's representation is essentially private.

But this private language is not uncommunicative because it is so rooted in accessible metaphor and local reference. In addition to the popular epithets mentioned above, his houses have been called 'airplanes' because of their struts and cables, and 'insects' because of their spiky feelers which shoot out from the 'head' or 'tail' of the roof. In several buildings, such as the Gryder House, an insect face is visible, but it is definitely an Oriental insect with turned-up eyes slit at the corners. Often the 'body' of the house is symmetrical like an animal body, placed on legs and centred on the

'heart', the hearth, the fireplace or conversation pit – so a subconscious identity is felt between our body and the building.

One projects a bodily metaphor, a clear set of human dimensions – beginning, middle and end, up/down, left/right – that help fix orientation in a possibly chaotic field (and Goff's work is possibly chaotic)⁸. Beyond this basic human coordinate system and image are the sensual human parts, the erogenous zones of architecture that Goff especially dresses up. Doors, windows, and other orifices are outlined with ornamental bands or decked out with the plumage of coloured glass and beads. Fireplace and chimney, the definite focii of the house, both heart and face, are surrounded by mosaics and plastic strips, which scatter light in all directions. Roofs flare out at the corners, protective wings in one instance, and funny heads in another. While these erotic images are similar to the Art Nouveau buildings of Nancy, with their tits and bums and other less mentionable delights (barely concealed in the fireplace), the anthropomorphism is not total and certainly not preconceived by Goff, but rather allowed as a possible consequence of organic design. Whenever a non-historic language of architecture is used, people will compare the unusual shapes to familiar objects, they will find metaphorical images; and in Goff's unique shapes these images are closer to the body than they are to the machine, to weird insects than the Parthenon.

Hence another reason for the popularity, for the many features in *Life* and *Popular Science*, for the crowds which mill around the latest Goffery. The images and themes appeal not to the whole populace, not to the elite and high culture of the profession, but to the lower-middle taste culture – the readers of *Life*: thus the accent on the hearth, symbol of familial security, the omnipresence of water and indoor growth, common themes of relaxation and escape. The easy beauty of shimmering crystal, the comforting softness of thick-pile carpet and goose feathers embracing an orifice. This is not the last word in Brutalism, this is not the five shades of white of the New York Five – this is the architecture of the solar plexus meant for another audience, sensual in orientation and non-intellectual by inclination.

Herbert Gans, the sociologist who developed the notion of differing taste cultures, marks out five basic (but not rigid) American types, varying from High Culture (that of the creators), to Upper-Middle (basically *Time* and *Newsweek* readers and Leonard Bernstein), to Lower-Middle (Harold Robbins, *Readers Digest* and 90% of what you last saw on TV), to Quasi-Folk Low Culture (the followers of Spiro Agnew and John Wayne), to Quasi-Folk Low Culture (rural and ethnic groups that sometimes express themselves 'with elaborately painted and colourful graffiti'). A sixth taste culture is added to these, called 'Youth, Black and Ethnic', which covers such things as Hippies, Yuppies, Drop Outs, Jesus Freaks, Pill Poppers, Blacks, the readers of the *Village Voice*, that is to say basically all those left out in the first five categories.

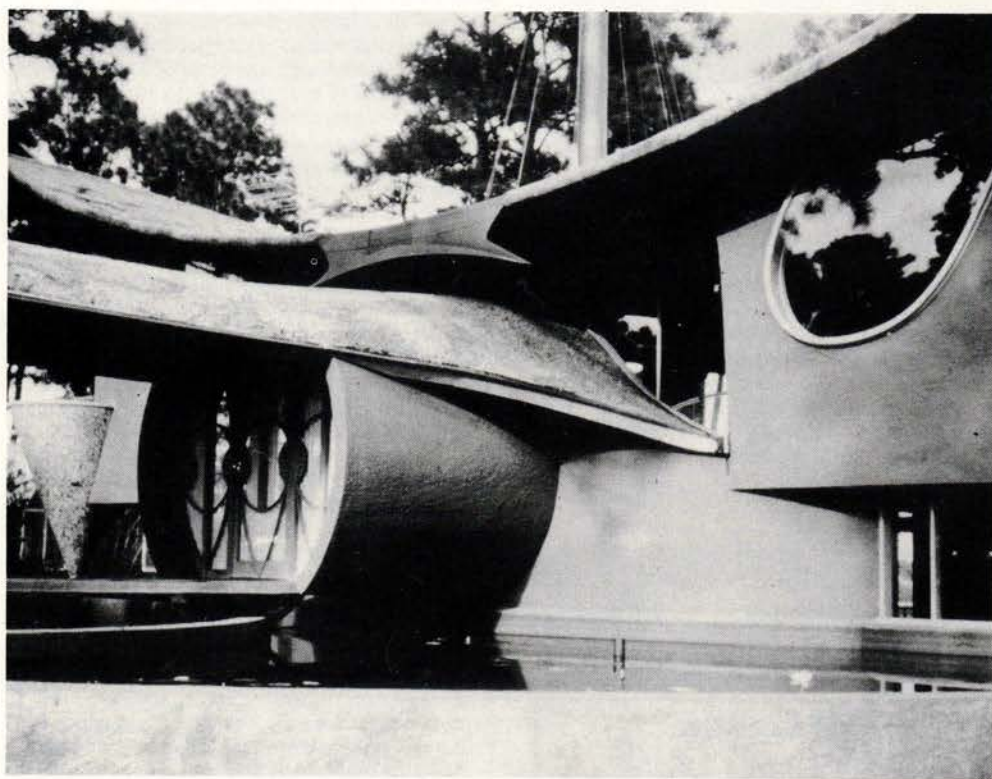
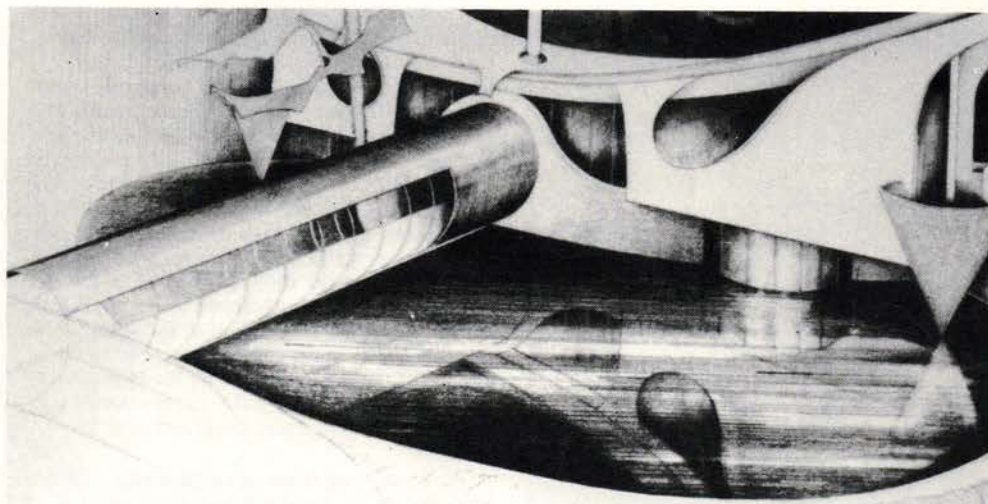
Most of us, it would appear, just consume what we like and call that culture, or its equivalent, and reserve less savoury terms for everything else which is beyond the pale (like Goffisms). But a dispassionate analysis like that of Gans, or perhaps any market researcher, reveals the actual variety of values and the conflicts, not to say disjunctions, inversions and hiccups that exist between them. These disjunctions lead to strange feelings of unreality when one is confronted by strong values from another taste culture. As T S Eliot put it in *Sweeney Agonistes*,

If he was alive then the milkman wasn't
and the rent-collector wasn't
And if they were alive then he was dead.

An extreme example of taste-culture-shock, which
an Upper-Middle suburbanite might feel when
driving past a Lower-Middle Goff for the first time.
Herbert Gans:

Numerically (the Lower-Middle Taste Culture)
is America's dominant taste culture and public
today. It attracts middle and lower-middle-class
people in the lower-status professions, such as
accountancy and public school teaching, and all
but the lowest-level white-collar jobs . . . The
aesthetics of lower-middle culture emphasize
substance; form must serve to make substance
more intelligible or gratifying. Dramatic
materials express and reinforce the culture's
own ideas and feelings . . . Its heroes are ordi-
nary people or extraordinary ones who turn out
to be ordinary in that they accept the validity
of traditional virtues, such as 'wholesomeness',
and traditional institutions, such as religion
. . . The lower-middle public provides the major
audience for today's mass media; it is the group
for which these media program most of their
content . . . this public probably uses much less
nonfiction than the upper-middle public (except
for self-help and 'how-to' content that aids
people in solving personal problems and taking
care of home, car, and other consumer goods)
. . . Lower-middle culture does not often treat
subjects in a manner that would disturb or
upset its public, but then neither does any
other culture, including high culture.
Lower-middle art continues to be mainly
romantic and representational, shunning harsh
naturalism as well as abstraction. Still, . . . [they]
are also ready to accept popular adaptations of
nonrepresentational high and upper-middle
culture art: imitations of cubists like
Feininger in which the cubist method is altered
in a more representational direction, and op
art which is softened and romanticized by the
use of pastel colours. Reproductions of the
work of high culture artists can also be found
in lower-middle outlets; for example, the
landscapes of Cezanne and Van Gogh, the
dancers of Degas, and the cityscapes of
Buffet.⁹

Goff's work is accessible to this public because
it is always designed around clear-cut themes –
prisms, trapezoids, spirals, crystals, lozenges,
amoebae – which are repeated insistently. The
lower-middle taste culture wants high definition of
these themes – and they get it in America with
Morris Lapidus, John Portman, Minoru Yamasaki
. . . and Bruce Alonzo Goff. But he alone is the real
master of these themes, the Prometheus of the
Woolworth Ashtray Style, the Pied-Piper of the
Woodbutchers' Art, the Big Daddy of the Lone
American Architect, the King Midas of Schlock.
So many American architectural students are now
given advanced training on Levittown and Las
Vegas by Robert Venturi, PhDs in mobile homes
by Vincent Scully, Disney seminars by Charles
Moore – 110 credit hours of Camp, Kitsch, and
Schlock at Yale University – these *experts* of the
demodé, these professionals of bad taste can't
begin to reach the nightmarish beauty of Goff's
work because their heart and taste culture aren't
in it. Goff has a heart of pure tinsel, pure cello-
phane rain-strip, pure gold-anodised metallic roof-
strip, pure Yyuk!



Conneil Gryder House, Ocean Spring, Mississippi, 1960, was built for the owner of a family chain of shoe stores, who was also an elder in the Presbyterian church. The parents' and children's wings are at either end of this praying mantis – that is, they open out onto the conical balconies – the ears – which balance precariously in a water garden.

Surrealism and Beauty

Goff has remembered among his storehouse of quotes, the vast collection of varied reading that the self-taught feed on like yeast, one that justifies both the acceptance and rejection of his work: 'someone once said that the perception of beauty itself is always accompanied by feelings of strangeness . . . it's part of the process of the recognition of beauty.'¹⁰ Strange, queer, outlandish, awful, new, avant-garde, marvellous, terrible, outta-sight, shocking – the Marquis de Sade put his finger on the theory of the avant-garde when he said 'man

Gryder House entrance is over a bridge, through some circular hoola-hoops in steel and an insect's mouth which is set off from the violet stucco and gold trim.

likes nothing so much as a shock to the nervous system' (or something like that). Right, 110 volts, jack up the power, beat the avant-garde, fire those old tired neurons that have been dulled by 100 years of The Tradition of the New. Make it so outrageously new that even Wright looks positively Renaissance, make the Expressionists look like 19th century Goths, make every Modern architect from Mies to Corb look like some Beaux-Arts classicist on a grid-iron – yes, Goff is so extreme that he makes the rest of the avant-garde look like a bunch of prep-school conformists wearing the same school tie.

In the 20s, a group of underground German architects started producing an equivalent of Dada nonsense, to wit, a preposterous sexual architecture



Nicol House oculus is an abstraction of lozenge shape shingle, repeated from the outside. The use of a conventional religious form – the eye of God, the dome of heaven – is modified by the tinkle of domestic equipment, the plastic tea-coasters and balloon (?) decoration. But the sacred realm reasserts itself in this family hearth, this air-conditioning system, at which earth, air, water, and fire meet.



Nicol Dining Room. Carpet climbs up the wall in triangles to kiss the triangular windows coming down to meet them, while the Mod furniture explodes out in glass bubbles and the Top Hat, right, cools the champagne.

that was so *outré* that it has remained censured to this day. Certainly no European architect could build these ejaculatory exercises because the society wouldn't have them staying around on the streets frightening the tourists. If one wanted a 'convulsive beauty' then a Surrealist painting or collage, or at best a staged happening, was possible. Beauty as 'the fortuitous encounter of a sewing machine and an umbrella on a dissecting table', the 19th century epigram of Lautréamont, might be perfectly acceptable hanging on the wall at a Surrealist exhibition and contained by an art gallery context, but a whole city made up of such encounters would be so beautiful and stimulating that it would drive the population to ever-increasing levels of ecstatic madness, higher blood pressure, hypertension, hyperthyroid – hyper-realism, just plain HYPE over the top. Drugs and suburban madness.

You're driving down one of the main rolling roads on the outskirts of Kansas City, past the University of Missouri, past collegiate Gothic fantasies all covered in their well-kept ivy and discreet vegetable salad, past your Scarlet O'Hara Southern Mansion, row upon row of Stockbroker's Tudor, Ad Man's Castellated and Doctor's Palladian, when you see appearing out of the manicured verdure these funny coloured spikes with little round balls on the end, kind of Martian tentacles waving out there (maybe they have five television sets?) above this shaggy-shingle, zig-zag TEEPEE!. What the . . . ??? . . . is this zwoopy, shingle wigwam doing to our Palladian neighbourhood? The Indians returning to reclaim their plains, some kind of ethnic pavilion put up by the U of M? And what are those glowing, lozenge-shaped, green . . . Woolworth ashtrays doing crawling up the front door? Holy Toledo, what do they think this is, Coons Bluff Iowa or Paris Georgia?

It's the James Nicol house, commissioned in 1965 for a banker, his wife and three children. You walk in through the front door, past all these hexagonal shingles and sharp, pointed triangles, past your glowing Woolworths, and you hit the thick-pile, *really* thick, and warm and soft and kind of yellow pea-green soup colour that you know couldn't just happen by chance, but had to be picked by somebody who really wanted it. Off with the shoes, as in all Goff's Japaneserie, and onto the thick-pile – everywhere: down it goes into the conversation pit, climbing over the octagonal pit around the ambulatory right into the bedrooms. . . endless, wall-to-wall, deep, thick-pile pea-soup! It's fantastic, it soaks up the sound, you can hear your heart beat it's so silent, this is the ultimate haptic architecture that Moore and Bloomer write about, the most touchable, all senses going, enveloping body-bath that an architect ever fashioned, more encapsulating than Rococo, more epidemic and cuddly than Art Nouveau – you can actually fall down and crawl through the building like a mouse on a featherbed touching every last part of it – HAPTIC ARCHITECTURE!

You snuggle down into the furry conversing pit, preparing for some really good repartee, and see across the octagon, behind your concertina shutters these bedrooms changing colours like a Munsell Colour chart – from indescribable deep purple red to orange and yellow – all the way around the octagon the colour chart rings the changes, while every now and then there are these punctuations in see-through acrylic, these perspex womb-chairs and plastic tables that you might have last seen in a 50s sci-fi flick, or maybe a sale of down-market, replica Saarinen. The great thing about these plastic accoutrements is that they seem totally without

pedigree, without provenance, they cry out 'anonymous craft-kitsch', emanations from the hidden psyche of the Great Unwashed.

Overhead is the central skylight and its decorative insect giving an undeniable focus to the heart of the house. Light comes through this central octagon and focuses like the oculus of the Pantheon (yes it does) on the surrounding octagonal dome and its coffers of tiny hexagonal shingle. And from the top of the Pantheon, this religious space given over to sacred conversation, comes down a most miraculous thing. As if from heaven, picked out by the central eye of the Supreme Being, and down, down, down the thin copper wires come . . . DROPS OF WATER, sliding one by one down the oiled wire, slinking with all their little capillary actions working to cool the air. Yes, it's a Goffair-conditioner. Beads of water on copper wire cooling the Kansas City 110° in the shade . . . and why not, we perspire little beads of sweat for the same reason. And where do these little beads of coolth arrive? Why at the central, circular, conversation *pool*, where else, where there is a halo of copper wire, surrounding a lake of water that in turn surrounds a ring of gas jets! The FIREPLACE, the hearth, the archetypal heart – of course, how could we have missed it? *Earth, air, water and fire* and thick-pile carpet, the five elements of the Goffiverse, meet at the centre of family life. How indescribably-yuk-beautiful, how incredibly outrageous – give up all you Surrealists, throw it in you Schlock PhDs, back to the Beau-Arts Venturi, out of the woods you self-build neophytes, you failed Hippies and would-be Slummers, this is the poetry of the unredeemable, the rescue of ersatz, the Michelangelo of Kitsch.

Notes

- 1 See *The Architecture of Bruce Goff* by Jeffery Cook, Granada Publishing Ltd, St Albans, 1978.
- 2 *Ibid*, p30.
- 3 See Robert Kostka, 'Bruce Goff and the New Tradition', *The Prairie School Review*, Second Quarter 1970, p11. A student at the AA and Miami University, Paul S Brown, who worked for Goff for the summer of 1976, supplied me with some of this information, including that on Goff's method of design.
- 4 See *Adhocism* by myself and Nathan Silver, pp84-87, where several examples are given with descriptions by Goff which show his enthusiasm for out-adhocing the next guy and being cheaper than thou. *Adhocism*, Academy Books, London, republished 1978. Banham refers to the 'Army Surplus Aesthetic' in *Guide to Modern Architecture*, 1962, re-edited as *Age of the Masters*, Architectural Press, London, 1975, p79.
- 5 See Cook *op cit*, p121.
- 6 *Ibid*, p63.
- 7 Admittedly Goff used these parts as scaffolding on the Bavinger House, whereas Gaudi used them as decorative grille-work on his Guell Chapel. But they both revel in reusing industrial or commercial waste, whereas Wright steered clear of this adhocism. For the sewing-machine see Cook, *op cit*, p46.
- 8 For a discussion of this natural, empathetic coordinate system see Kent C Bloomer and Charles W Moore, *Body, Memory, and Architecture*, Yale University Press, London and New Haven, 1978. Renaissance architecture, after Vitruvius, codified the body metaphor.
- 9 See Herbert J Gans, *Popular Culture and High Culture*, an analysis and evaluation of taste, Basic Books, New York, 1974, pp84-88.
- 10 Kostka, *op cit*, p11.

Stephen Mooring: A STARTING POINT BRUCE GOFF AND HIS CLIENTS

The architect is the 'public artist' in the widest sense – if more people are aware of his work than that of other artists because of its free and inescapable visibility, it is also true that more people have a voice in the fact and form of its existence than they have in the other arts.

Unlike writers, painters, or composers, who can produce finished works of art and then wait and hope for future recognition if need be, the architect is dependent on the immediate availability of patrons and clients and is constrained by their needs, funds, and wishes. Certainly a study of these patrons and clients is a vital if neglected part of architectural history . . .

Leonard K Eaton: *Two Chicago Architects and Their Clients*

This quotation from the flyleaf of Mr Eaton's excellent and authoritative work on the clients of Frank Lloyd Wright and Howard Van Doren Shaw outlines the influence clients have on their architects and the environment, and makes a plea for 'a study of these patrons and clients'. Furthermore, the relationship between enlightened clients and radical architects calls for an exploration in the depths of myth and reality. An enlightened client could be defined as one who is aware of the possible effect of architecture as an art on his life and the environment. A radical architect would – in terms of organic architecture – be one who goes to the root of the problem and searches for new answers.

The post war myth concerning Frank Lloyd Wright and his clients has often reached comical and ridiculous heights. Wright is pictured as the tyrant, brow-beating all, with a glare from under the pork pie hat and a wave of the cane. Stories are told of his marching unannounced into his clients' homes, knocking pictures off the wall, and demanding that an 'unapproved' carpet be removed. While Wright did live long enough to begin to confuse the myth with the reality, the truth, certainly in the earlier days, was quite the opposite. His clients were his friends and their interest and participation in his design of their homes is firmly on the record.

Like Wright, Bruce Goff has also been subjected to myth making. Is he possibly another organic ogre, spinning delicate shades over the unsuspecting eyes of nouveau riche midwestern clients? Local reporting on events surrounding some of Goff's more exuberant designs has asked categorically whether Goff or his client might be crazy. The reality, of course, lies somewhere between. To suggest that Goff could not, or would not, promote his own ideas concerning architecture as an art is incomprehensible in the face of an energetic life-

work of so many outstanding buildings. On the other hand, to suggest that his clients were simple-minded non-entities who were hypnotised by Goff's magnetic personality would not only do dishonour to them, but also miss their incredible faith in themselves and their desire to construct a new architecture which would fit their view of life.

Bruce Goff's own starting point for an architect/client relationship was probably sparked by the Wrightian concept that organic architecture would provide homes as different from each other as the people who lived in them. The difference between these two great masters of organic architecture seems very clear at this point: Wright created a style with countless permutations and combinations, and designed for each client within that framework; while Goff has created countless styles each to suit a specific client. When questioned about his multitude of styles (often incorrectly conceived of as lack of style), Goff has replied:

The particular expression of my designs usually derives from working with individual clients and using their character as part of a starting point.

Goff also pours scorn on architects who create abstractions, or architects' architecture which fails to satisfy the real reason for which buildings are built, namely to satisfy the client and to suitably serve his needs. In a lecture at the University of Oklahoma, Goff said:

Such architects who distill and discard all personal feeling, either the client's or their own, and who say that 'expression of personal feeling has no place in art' are the very ones who have the least of it to express.

Towards the end of the same lecture he stated:

It is the architect's obligation to his client, not only to solve his problems and to satisfy him, but to do more than this, so the client will have an environment which has not only meaning to him today, but in which he can continue to grow. The client is entitled to a building which is Architecture.

In these quotes Goff makes clear his attitude towards his clients, and his concept that they are one of his primary generators in the creation of his designs for them, and this is supported by the multiplicity of styles from his hand. However, to test this thesis and to see this relationship with clarity it was decided to approach his clients direct. How would they respond and to what extent would they confirm or reject Goff's version of their relationship?

In order to answer this a questionnaire was sent

at very short notice to 18 clients, of whom 9 replied. This questionnaire sought to identify two important points, namely:

1 What type of client would approach Bruce Goff to design their home.

2 What degree of involvement did the client have in the design process.

The former point was of general interest and, although the sample is too small to establish a pattern, it did assist in clarifying some of the questions aimed at in the latter.

Conclusion

The picture of the typical client emerges as a middle-class Mid-Westerner, family centred, with at least one member with an interest in the arts. The client possesses self-belief and an open mind towards the design of the home. Probably the client finds Goff through an article in a popular magazine and is strongly attracted to Goff's expression of individuality. A starting point for their design is found after intensive discussion, and perhaps more than one design. The project is built, usually over budget, but the client is satisfied with Goff's professionalism and supervision. Any additions or alterations are referred to Goff. The clients move in and increasingly enjoy their house, while retaining warm feelings for their architect – Bruce Goff.

And yet there is no typical client any more than there is a typical Goff design. Goff's buildings by their very uniqueness deny definition and categorisation. His clients have a similar vision of themselves.

These clients are ardent Goff supporters, who maintain contact with him long after their buildings have been completed. There is a genuine depth of feeling for Bruce Goff among them. His humour and warmth are recognised. He is seen as a simple open man, but his artistic abilities are respected and revered.

His origins too, are in the Mid-West, far from the hidebound rule-oriented academies of the East Coast, or the trendy styles of the West Coast.

Bruce Goff makes the case for individuality, whether for architect, client, or project when he states:

I believe it is far more worthwhile to have each individual work that he does become its own style, faultless, unique, therefore different from any other works done by himself or by others. This is not to imply that originality should be his aim, but that it will be naturally the result of the growing and becoming of each of his creations.

Methodist Church/Oklahoma/1926

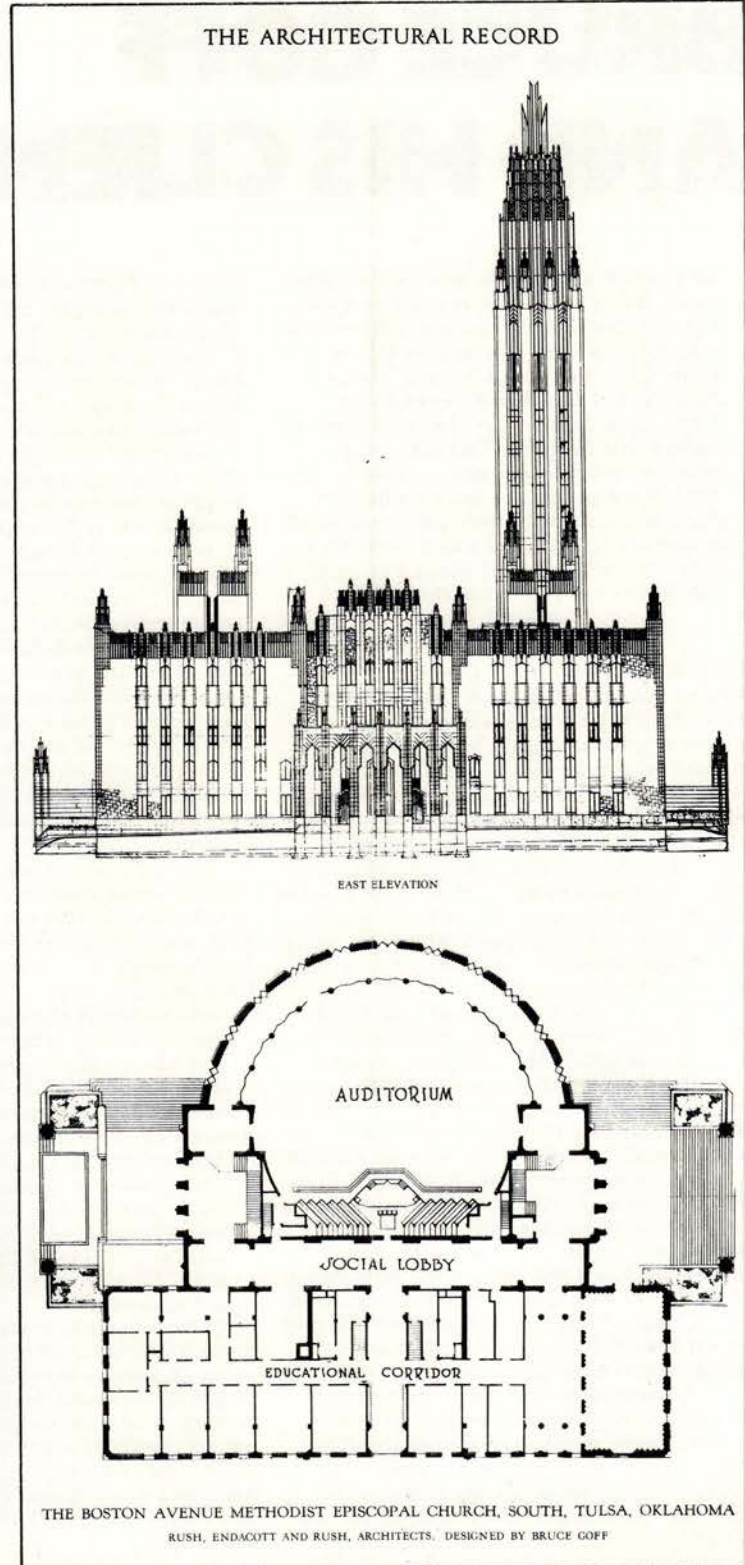
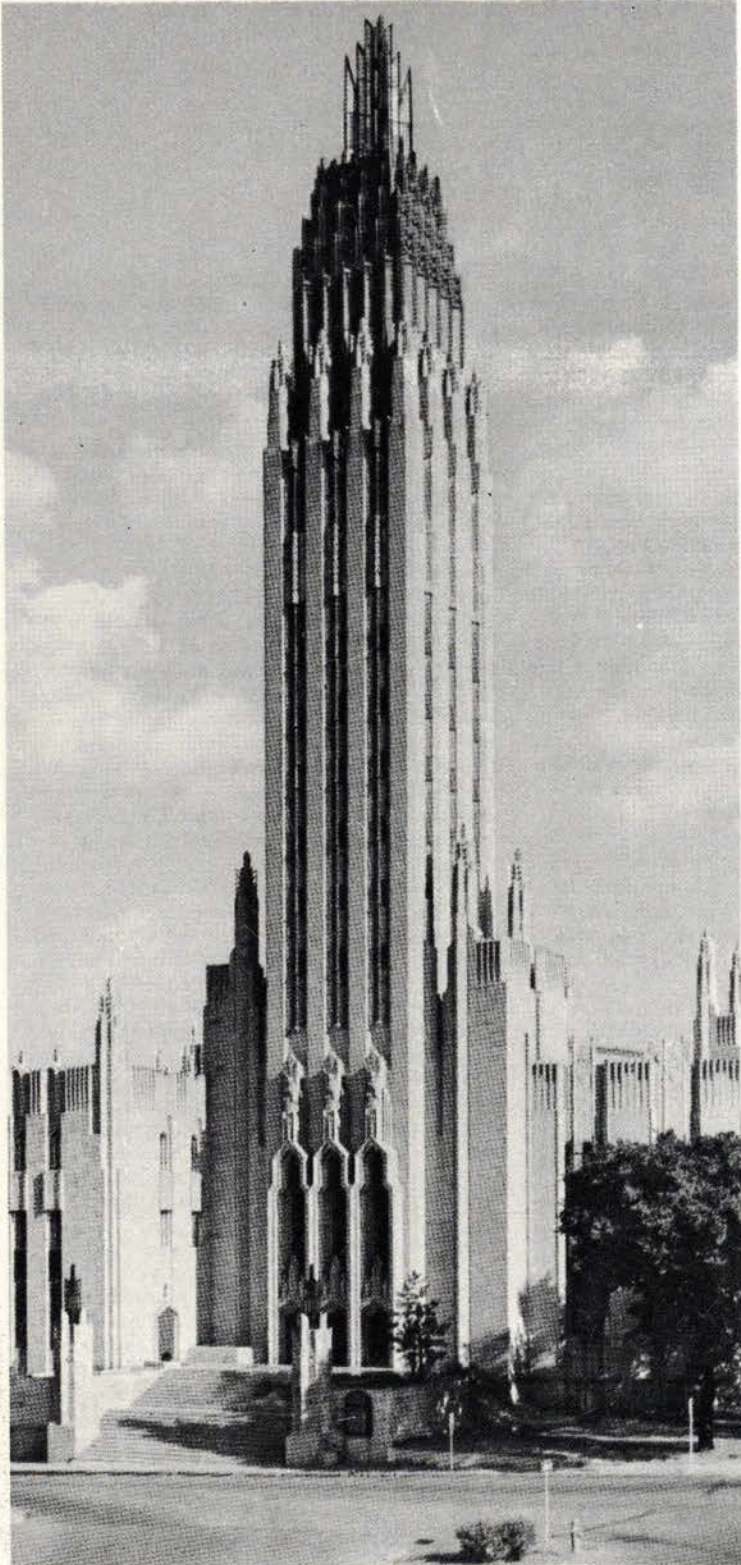
Boston Avenue Methodist Church, Tulsa, Oklahoma (1926-27).

Goff's first major building, designed while still apprenticed to Rush, Endacott and Rush, at the age of 22. The circular auditorium seats 1 200. The main entrance, from the north, is through the 250ft high tower. The four-storey Sunday school unit is to the left. The materials are limestone, with terra-cotta ornamental sculpture and perforated fins for spires. The glass lantern with

copper chime loft carries a 'spire of steel and glass to reflect the sun and moon'.

David De Long traces the history of this building in his book: the first designs, by five other architects, were rejected by the church building committee, and Miss Adah Robinson, Goff's former art teacher, a member of the committee, undertook the design of the building herself with the 'help' of Goff. Goff had already designed and built a small studio house for her. The drawings

were done by Goff and approved by the committee. The completed building was acclaimed throughout the American architectural press bringing international recognition to Goff. Miss Robinson publicly proclaimed herself the sole designer of the building, though the basic concept, which bears an unmistakable resemblance to Louis Sullivan's St Paul's Methodist Episcopal Church in Cedar Rapids, Iowa – a connection which Goff freely admits – the detailing and planning point to Goff's authorship



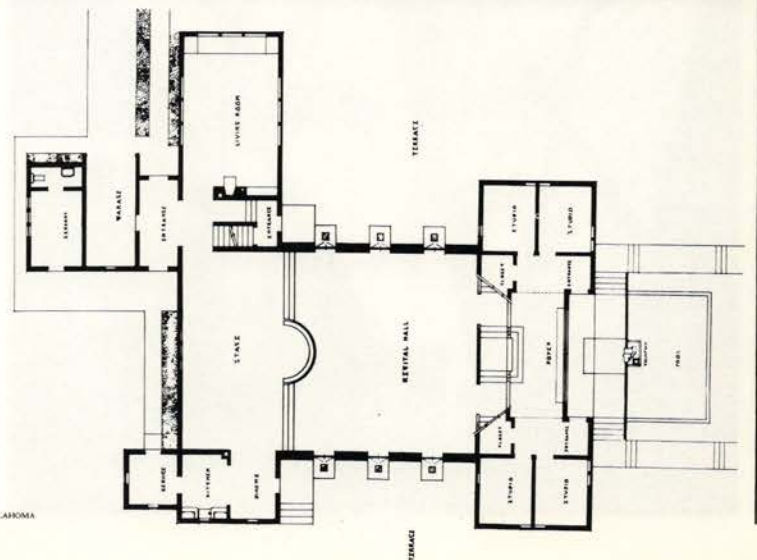
Riverside Studio/Oklahoma/1928

Riverside Studio, Tulsa, Oklahoma (1928)

David De Long describes this building, which is finished in white stucco over hollow clay tile block construction with sharply cut openings containing black painted steel frames, as follows: 'a formal front entrance and double-height lobby provide access to the teaching studios as well as to the central recital hall. The stage in the hall forms a linking element between studio functions and Mrs Patti Adams Shriner's residence. The plan

allows the living, dining, and kitchen facilities to serve for receptions in conjunction with concerts. Bedrooms on upper levels open to roof terraces. An enormous round window with sand-blasted patterns dominates the formal front elevation which faces the river. On each side, smaller rectangular studio windows are connected by black glass insets to form diagonal lines of "musical notation" across the facade. Confirming this, a short bar of music appears on Goff's plan. The

steps to the main entrance porch flank a pool with a fountain of terrazzo and chromium steel by Iannelli [a highly regarded architectural sculptor used by Goff and Wright], and murals line the interior of the recital hall. Original finishes in the residential wing included walls papered with light green Japanese wood veneer, aluminium ceilings, and fireplaces of black glass and green marble — all missing now.



FLOOR PLAN
RIVERSIDE HALL, TULSA, OKLAHOMA
RUSH, ENDICOTT AND GOFF, ARCHITECTS, TULSA, OKLAHOMA

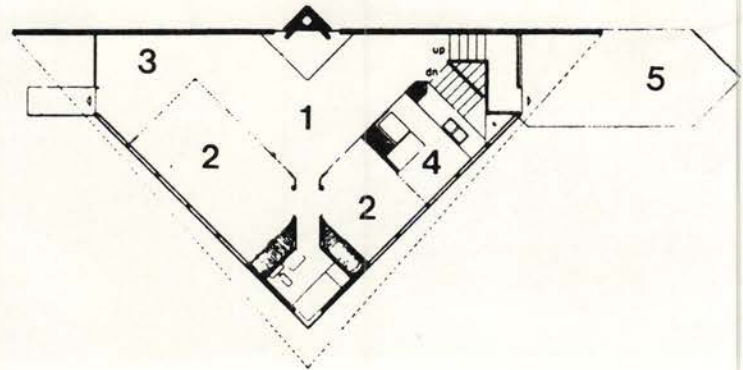
Unseth House/Illinois/1941

Unseth House, Park Ridge, Illinois (1939)

In 1934 when Goff was 30, with some 18 years of professional experience behind him, he moved from Tulsa to establish a practice in Chicago. At first he worked for lanelli as one of several designers in lanelli's industrial design studio. After a year he took up part-time teaching at the Chicago Academy of Fine Arts, and in his free time ran a small practice (with no work) from Park Ridge. After a short interlude as chief designer for the

Libbey-Owen-Ford company — manufacturers of 'Vitrolite', an opaque coloured glass — in Toledo, he returned to Park Ridge, and, in 1937, received the first independent commissions of his career. By 1939, David De Long records, Goff's work was beginning to demonstrate a stylistic independence. The Unseth house was redesigned when the first design came in at \$10 500, \$3 000 over the budget. In the new scheme Goff retained the triangular form of the plan, but reduced its size. This plan

form, and the use of diagonal boarding, though evident in earlier designs are the first instances where these concepts were realised. The line of the boarding emphasises the saw-tooth shape of the continuous bands of windows on the two angled walls, and correspond with the boarded triangular ventilation shutters. Inside, within the small living area, a massive fireplace rises through a prismatically-framed sky-light.



Key:

- 1: living room
- 2: bedroom
- 3: studio
- 4: kitchen
- 5: garage

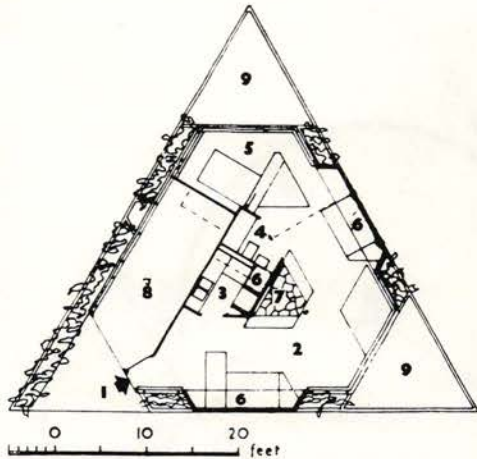
Triaero House/Kentucky/1941

'Triaero' house, near Louisville, Kentucky (1941)
 This week-end house for Irma Bartman was Goff's first country house (as opposed to suburban) and his first 'second' house for a client (with all the design freedom that implies). It was designed while Goff was practising in Chicago. The house has a triangular plan, based on minimal space standards with a central core of services (kitchen, bathroom and fireplace). The plan form and organisation of the central service core, along with the broad over-

hangs and guy wires stabilising the tall chimney, have led critics to compare this house with Buckminster Fuller's Dymaxion house of 1927 – especially with Goff's description of it as a 'minimum space home'. More significantly though, as David De Long points out, is the fact that this house clarifies Goff's geometric approach, which was to become one of the dominating themes in his later work.

The triangular roof is cantilevered from the

central core and supported by an external system of bracing, to stand free of all other walls. The walls and ceiling are redwood battens fixed over copper sheeting, and black lacquered venetian blinds – operated by a system of counterweights and retracting into pockets in the floor – provide sun protection to sheets of plate glass up to 12ft wide. All cupboard doors are sandblasted plywood, and the folding doors are covered with turquoise-coloured fabric.



Key:

- 1: entry
- 2: living
- 3: kitchen
- 4: bathroom
- 5: bedroom
- 6: cupboard
- 7: fireplace
- 8: carport
- 9: pool



20 **Ford House/Illinois/1949**

Ford House, Aurora, Illinois (1949)

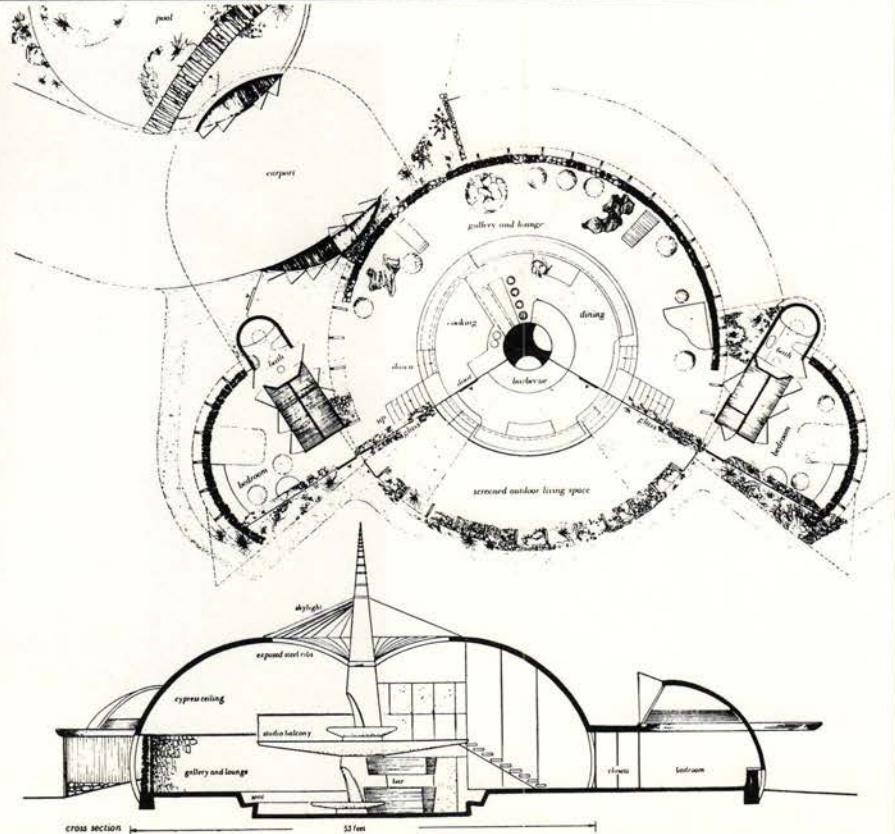
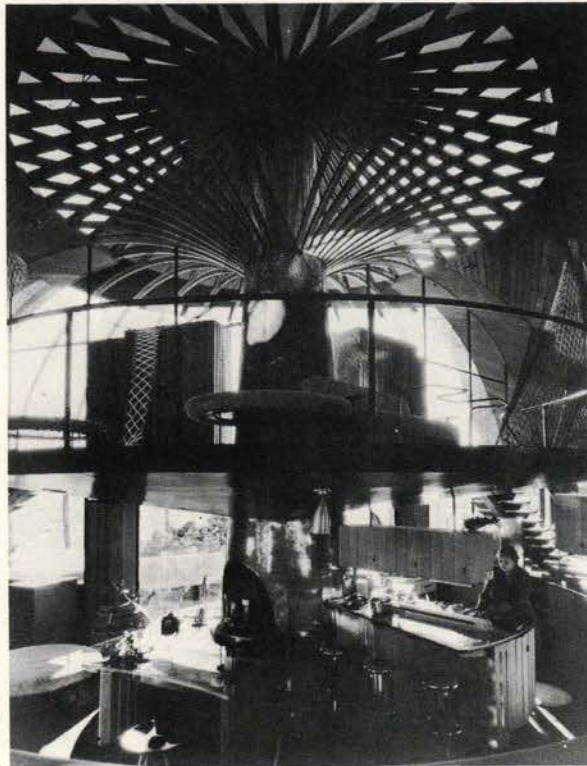
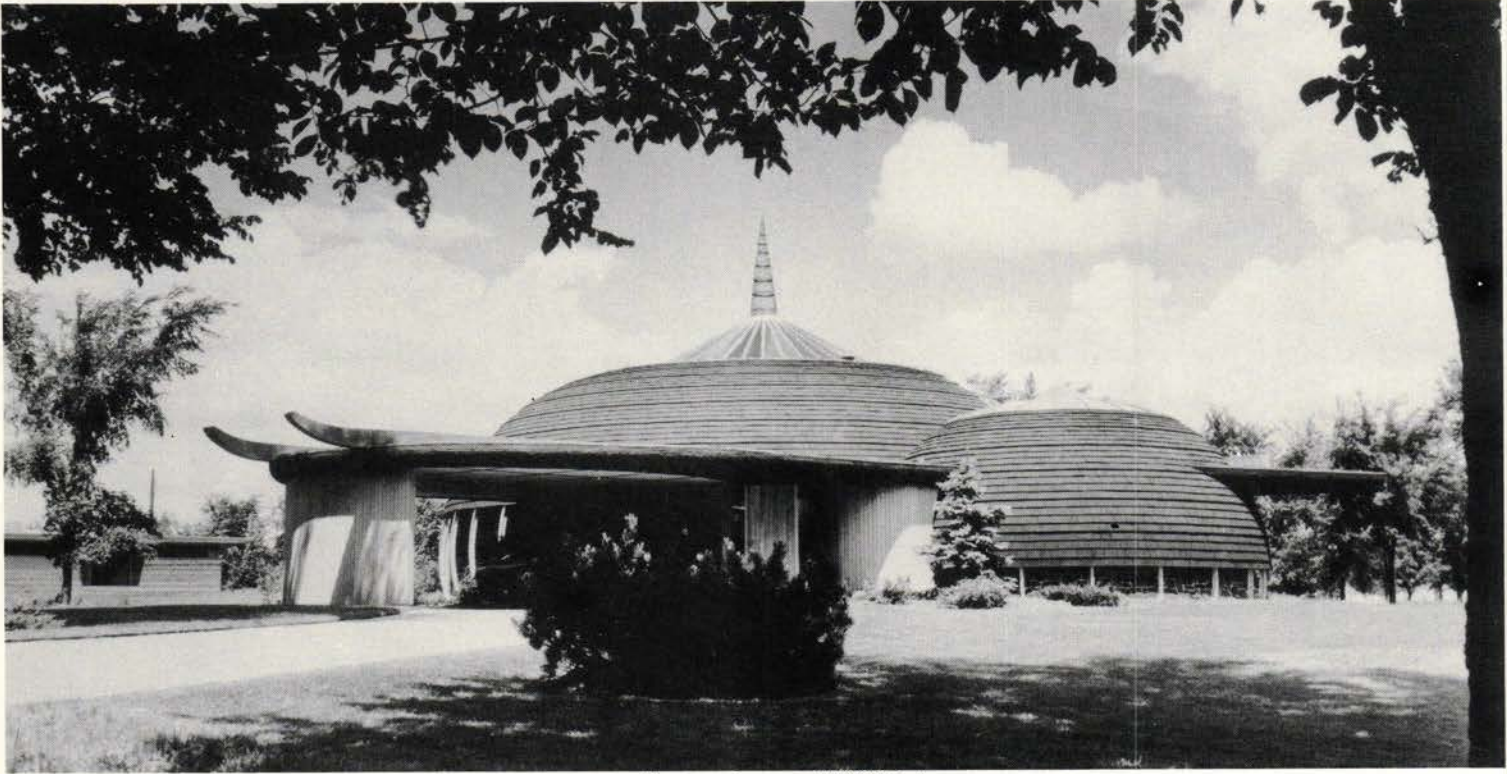
This studio house was for an artist and her husband. The domes were made of standard Quonset ribs lined inside with cypress boarding. Outside they were covered with copper and striated shingles stained green-black. The steelwork was painted red. Solid walls were of coal, with white mortar joints and with occasional lumps of glass cullet embedded in them (lumps of coloured waste glass). Practically all the glass walls were oriented towards the garden

for privacy and weather protection. Some of the ceilings were decorated with coiled hemp rope.

Because of the circular plan and the curved section, once within the house one is always conscious of space and depth, as the eye is carried round the walls and up to the suspended studio balcony in the centre of the house.

De Long notes that the house drew an enormous amount of attention, both popular and professional, and Mrs Ford, who had been Director of the

Chicago Academy of Fine Arts at the time when Goff was practising in Chicago, remembers both Mies van der Rohe, who admired the spatial flow, and Richard Neutra, who was only interested in how much everything cost (\$42 000 for the house), came to see the house. Eventually sight-seers precipitated the Fords' decision in the mid-60s to move to a more conventional house nearby.



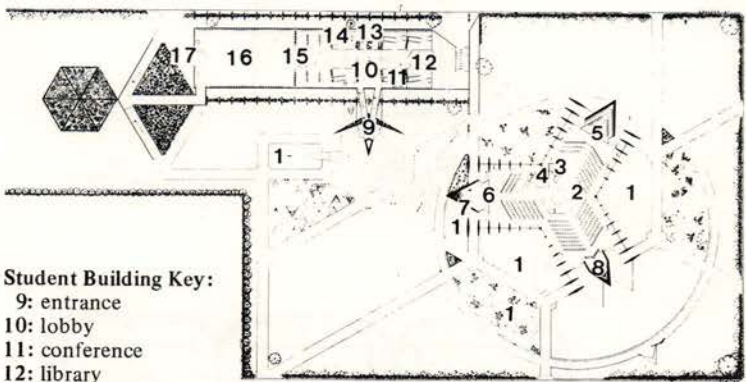
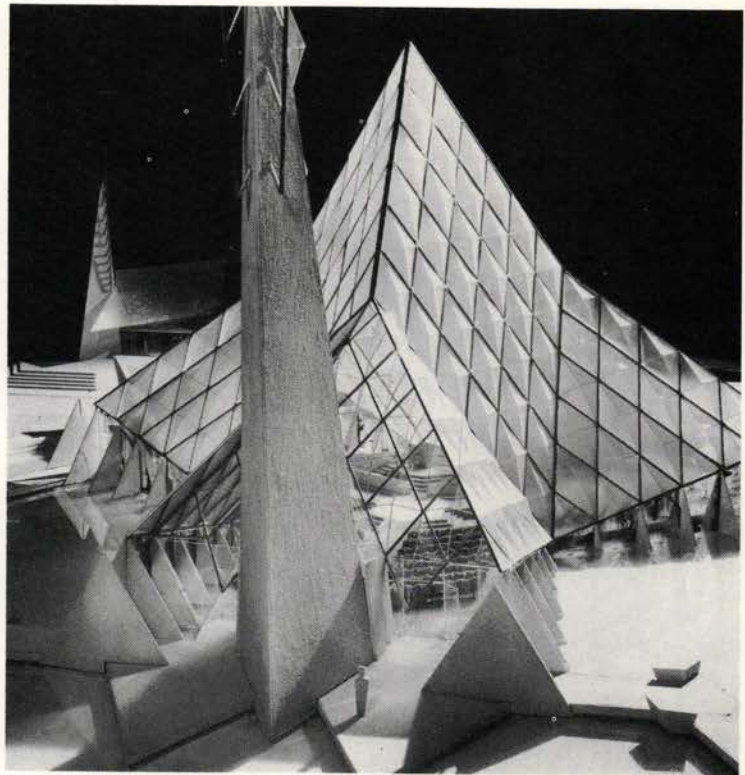
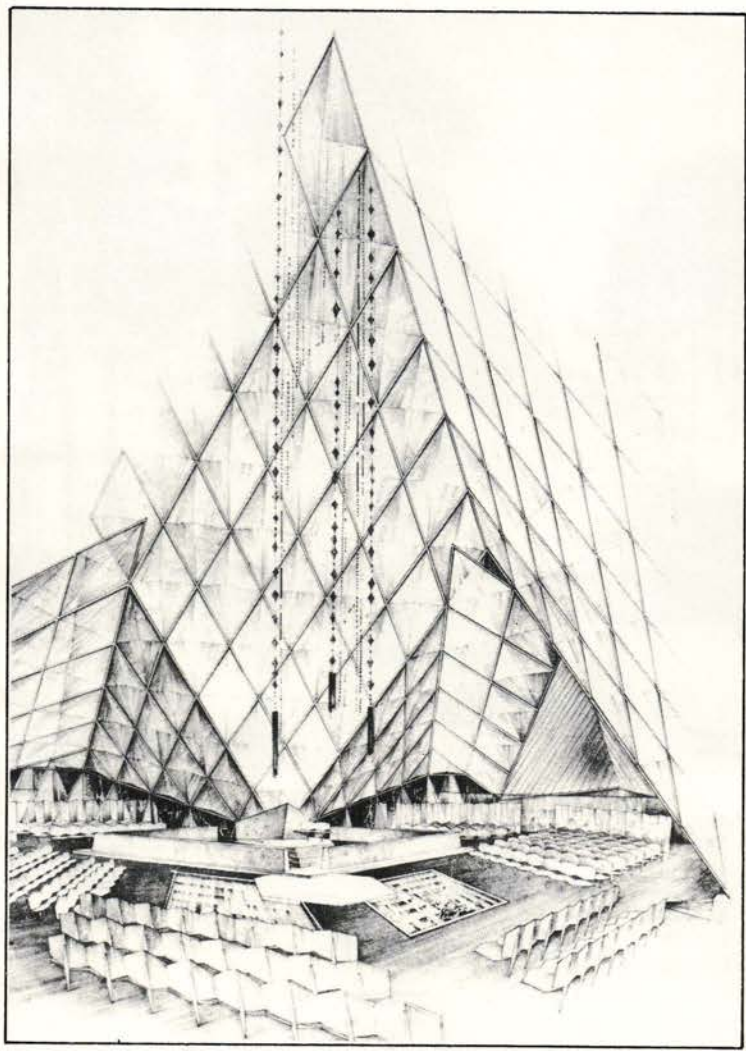
Crystal Chapel/Oklahoma/1950

'Crystal' Chapel and Student Religious Center, Uni of Oklahoma, Norman, Oklahoma (1950)
 David De Long describes the building: 'In plan, three wings of the chapel, containing seats for 300 people, bridge the pool and converge at the central pulpit and choir area. Two diamond-shaped pools in front of the pulpit flank a large hexagon of thick plate glass flush with the floor, a skylight for a speaker's study below. The long sides of the three wings are ordered by triangular piers of

pink Oklahoma granite. Between these piers were to have been "Gemmaux" panels: two sheets of plate glass with a pattern of coloured glass fragments sealed between [a technique developed and used to great effect on the Price house]. The pools surrounding the chapel continue beneath these glass panels into the chapel interior, letting the piers emerge directly from the water. The pyramidal forms which roof the space were diamond-shaped glass panels set in thin aluminum frames,

each panel made of two sheets of pink-tinted glass with a layer of pink glass fibres between for insulation. This frame was to be only 8in deep with the rivets topped by small glass pyramids - decorative bosses. Fluorescent tubes within the frame would light the chapel at night. Decorative chains of glass and silver were to be suspended from the peak of the roof.'

The work on the chapel was stopped when the private donor was declared mentally incompetent.

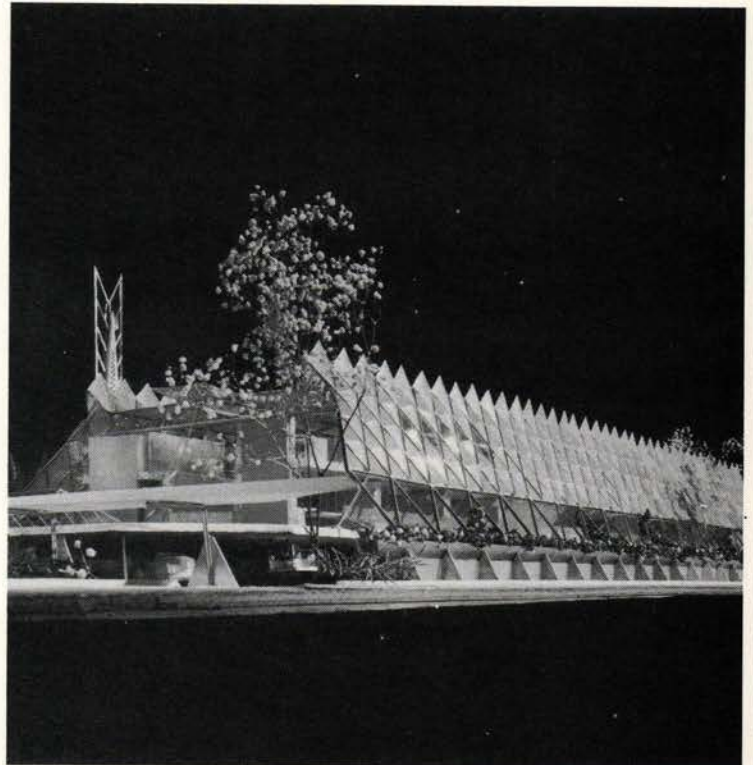


Student Building Key:

- 9: entrance
- 10: lobby
- 11: conference
- 12: library
- 13: coats
- 14: kitchen
- 15: fountain
- 16: recreation hall
- 17: stage

Chapel Key:

- 1: water
- 2: pools
- 3: choir
- 4: pulpit
- 5: chapel
- 6: parlour
- 7: rest rooms
- 8: coats



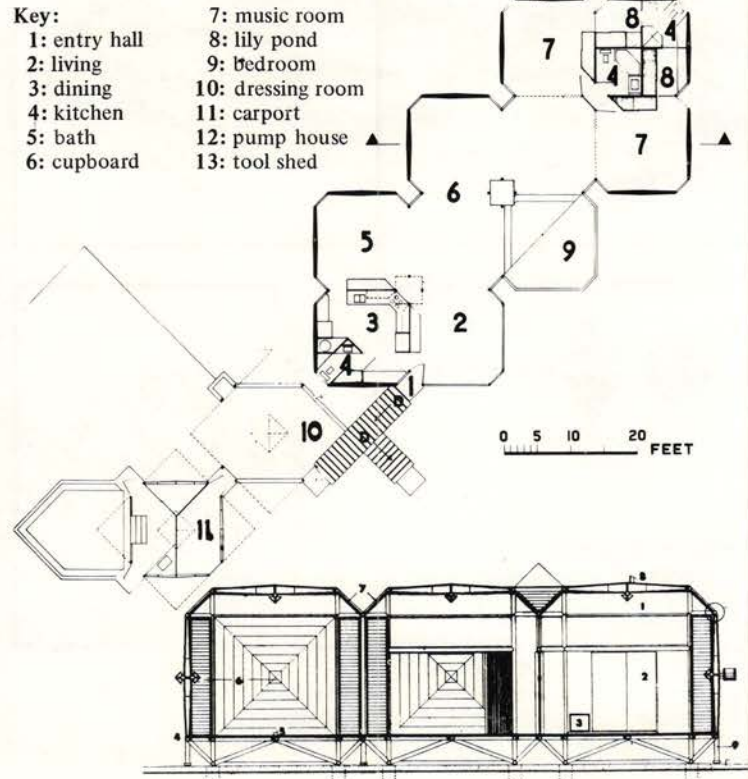
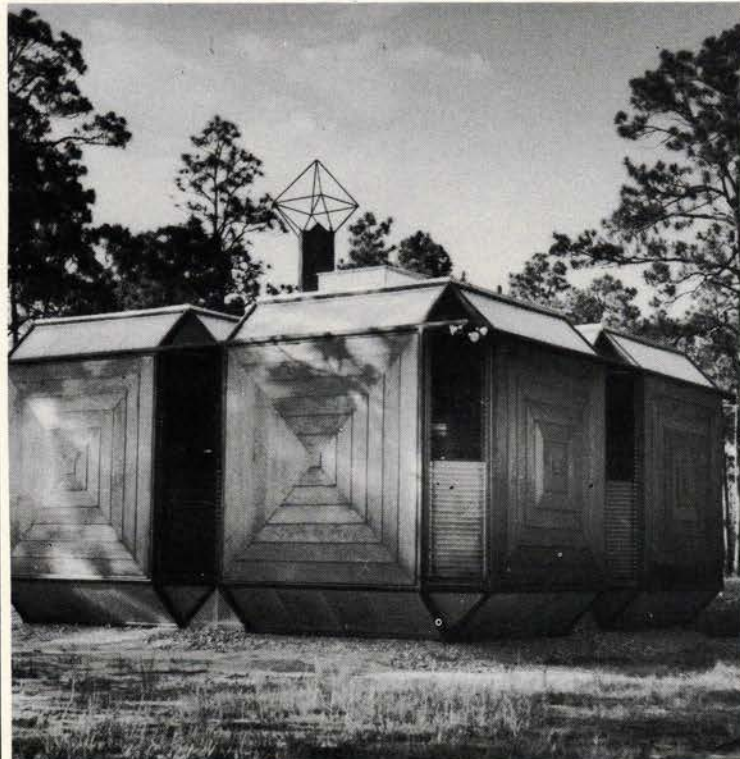
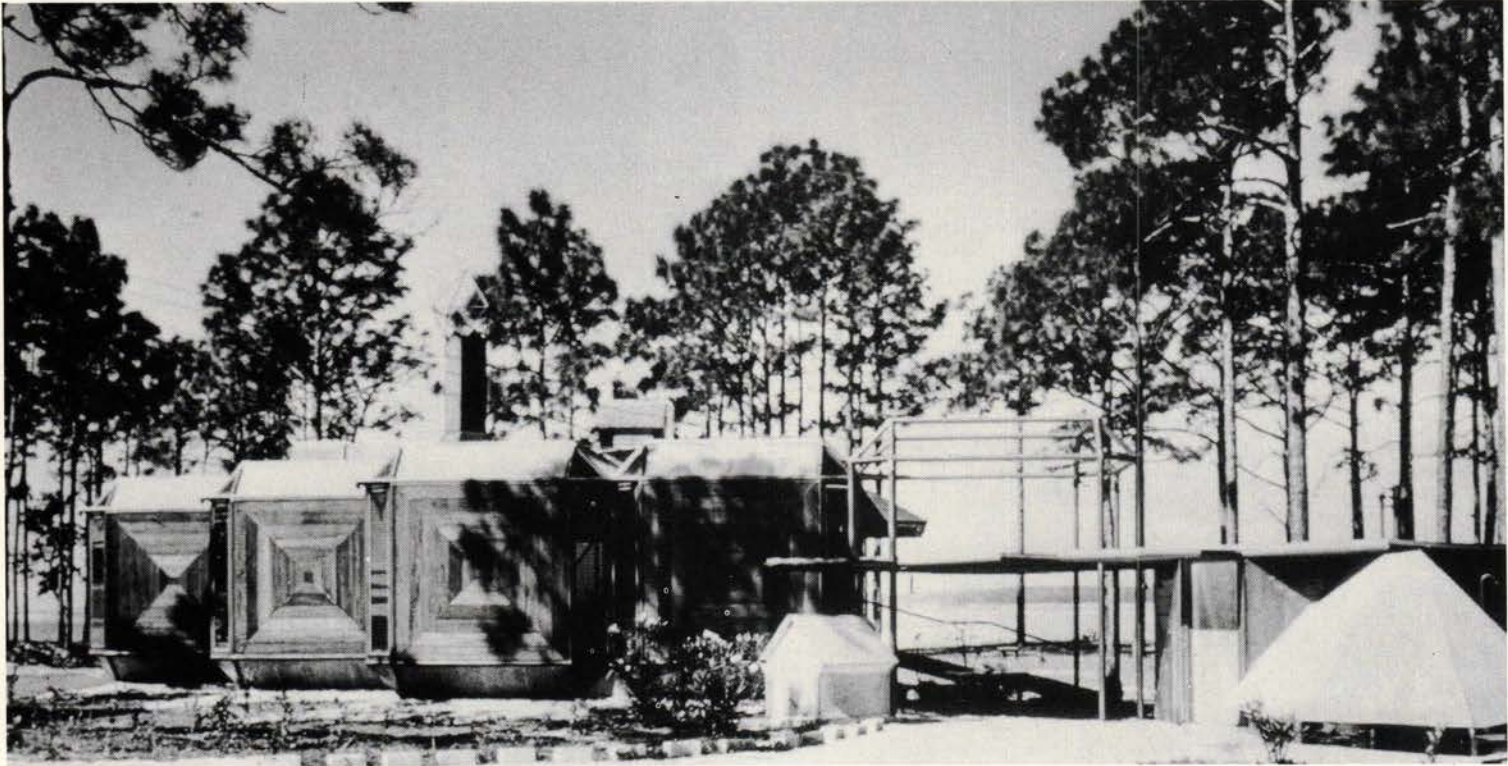
Wilson House / Florida / 1953

House for Rear Admiral (ret) J D Wilson, Perdido Bay, Pensacola Bay, Florida (1953)

The house was designed for a couple who do much entertaining and needed a great deal of space for it, but who didn't want to feel lost in it when they were alone. A cube module of 14ft was used, so that the space in each unit is quite intimate, yet was easily expanded. The frame was made from welded boiler tubing, with prefabricated panels of redwood for the walls and the roofs clipped to this

frame. The floors were lined with cork. Corrugated plastic and styrofoam skylights were used to give an even, balanced light throughout the house. Glass louvered windows providing cross ventilation were situated at the bevelled external corners of the cubes. Near the entrance is a cube formed only by the 4in diameter tubular framing, which marks the carport, while a further cube forms a tool shed. The spaces inside are closed off when required

with folding screen doors. Much of the furniture, as with most Goff houses, is built-in.



Garvey House No 2/Illinois/1954

Garvey House, Urbana, Illinois (1954)

David De Long records that the first Garvey house project actually came very close to realisation. The Garveys had accepted the design and were prepared to build it. Manufacturers were willing to supply the aluminum frame and plastic covering as specified. The plastic manufacturer, however, was not prepared to guarantee the material for more than five years. The Garveys were still willing to continue, but Goff chose instead to redesign the

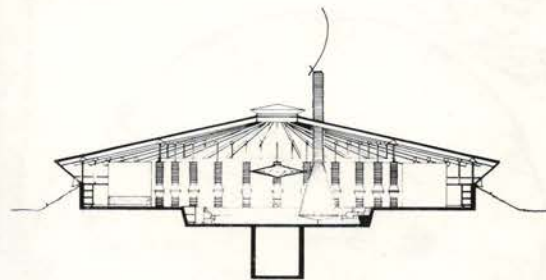
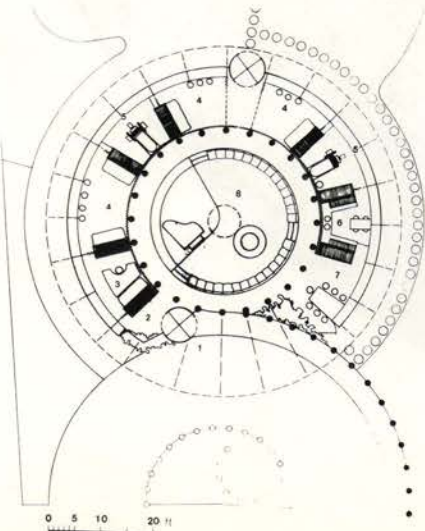
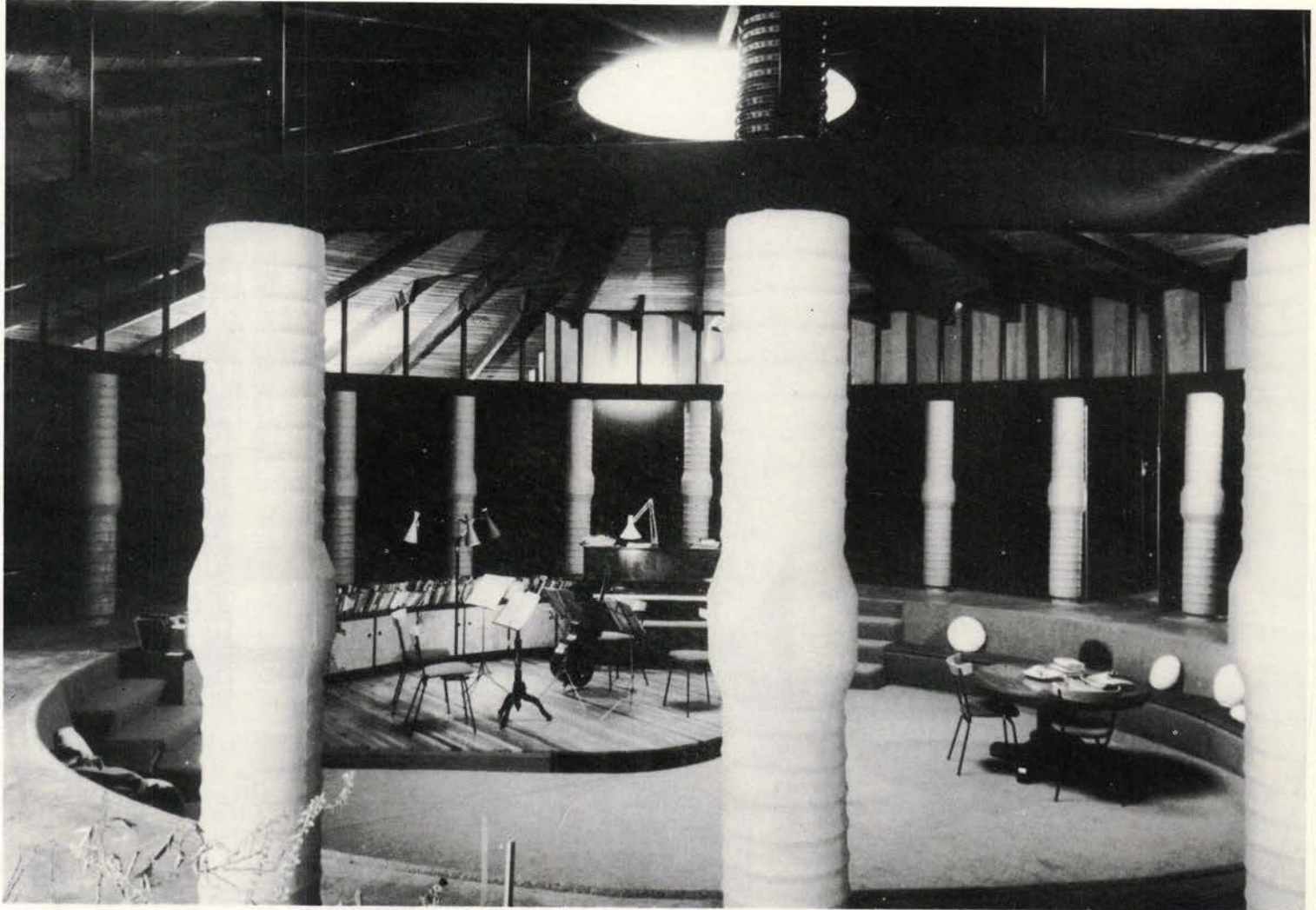
house.

The second Garvey design was considerably simpler than the first. Its highly organised plan, notes De Long, contains more than 2 600 sq ft, and, according to local reports, cost around \$ 20,000.

The structure consists of spun concrete sewer pipes, painted salmon-pink, which support the steel roof beams. These columns also line the driveway, supporting a plastic fence. The central

area has a timber stage for music, with small rooms disposed around, separated by accordion walls.

A continuous cupboard runs around the walls with a band of plastic over which leans out to the eaves line. Externally the earth is bermed up to the window line.



Key:

- 1: driveway
- 2: entry
- 3: living/music room
- 4: dining
- 5: kitchen
- 6: study
- 7: parents' bedroom
- 8: children's rooms
- 9: bath and dressing
- 10: utility space



Barnes House/California/1955

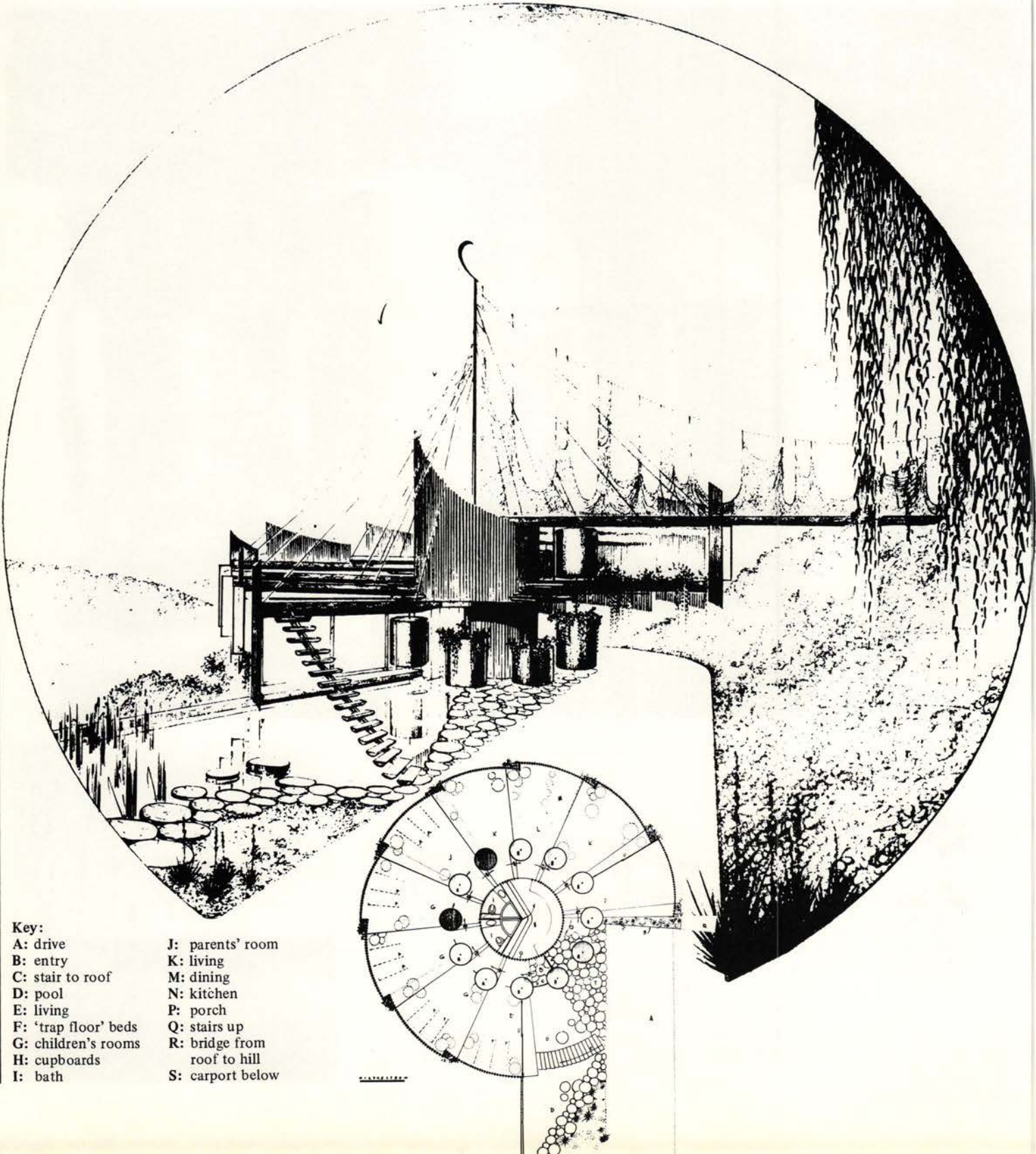
Project for Barnes House, Canyon, California (1955)

David De Long notes that the Barnes project develops a spiral as the interior space of the house itself. In plan, the house is formed from nine wedge-shaped units suspended by cables from a central mast. Each unit was to project slightly out from the adjoining unit to create a jagged perimeter, and ascended in 16in steps like a massive spiral stair. Slots left between each unit at both the floor

and ceiling levels were to be glazed to form a regular pattern of radiating skylights. Inside, free-standing cylindrical storage units were to define the edge of each wedge-shaped unit. These elements were also intended to separate the circulation space around the central core from the rest of the areas of the house. The central core, which was to contain the kitchen and the toilets, was also to anchor the suspension mast. The central core was to continue down as a masonry pylon, the sole

foundation of the house, rising out of a pool. External cladding was to be vertical redwood boarding, carried up above the roofs to form a balustraded play-space on top of them. A suspended bridge was to connect these roof spaces to the adjacent canyon wall.

The Barnes were about to start building when the Government requisitioned the land for a reservoir. In the legal battle that followed, the Barnes lost both their case and their money.



Key:

- | | |
|----------------------|-----------------------------|
| A: drive | J: parents' room |
| B: entry | K: living |
| C: stair to roof | M: dining |
| D: pool | N: kitchen |
| E: living | P: porch |
| F: 'trap floor' beds | Q: stairs up |
| G: children's rooms | R: bridge from roof to hill |
| H: cupboards | S: carport below |
| I: bath | |

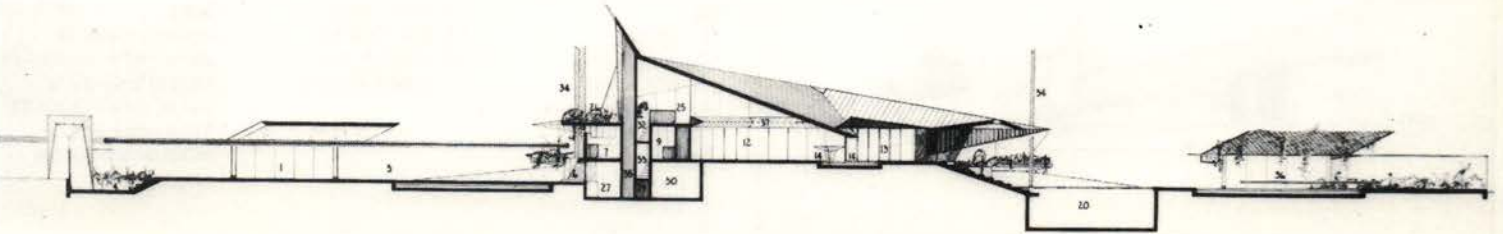
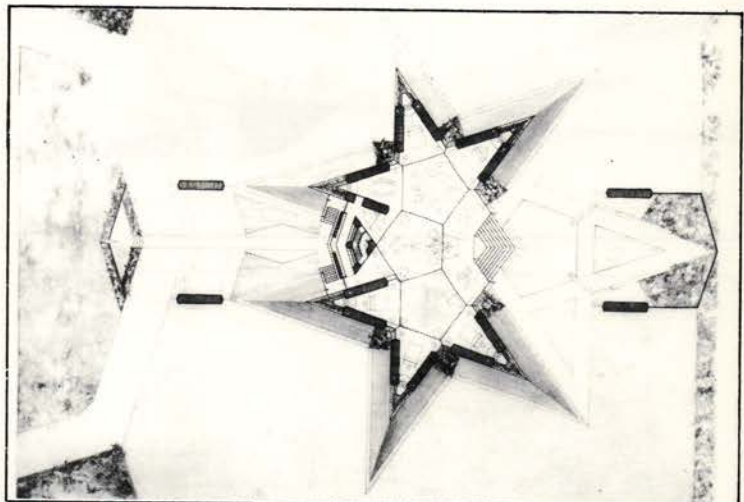
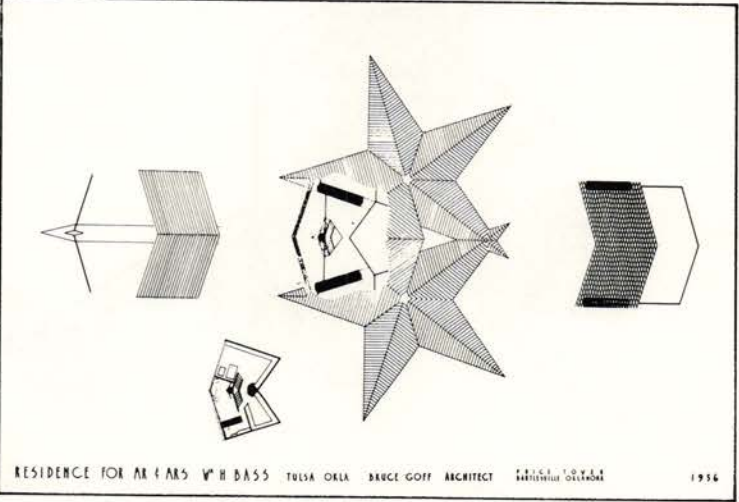
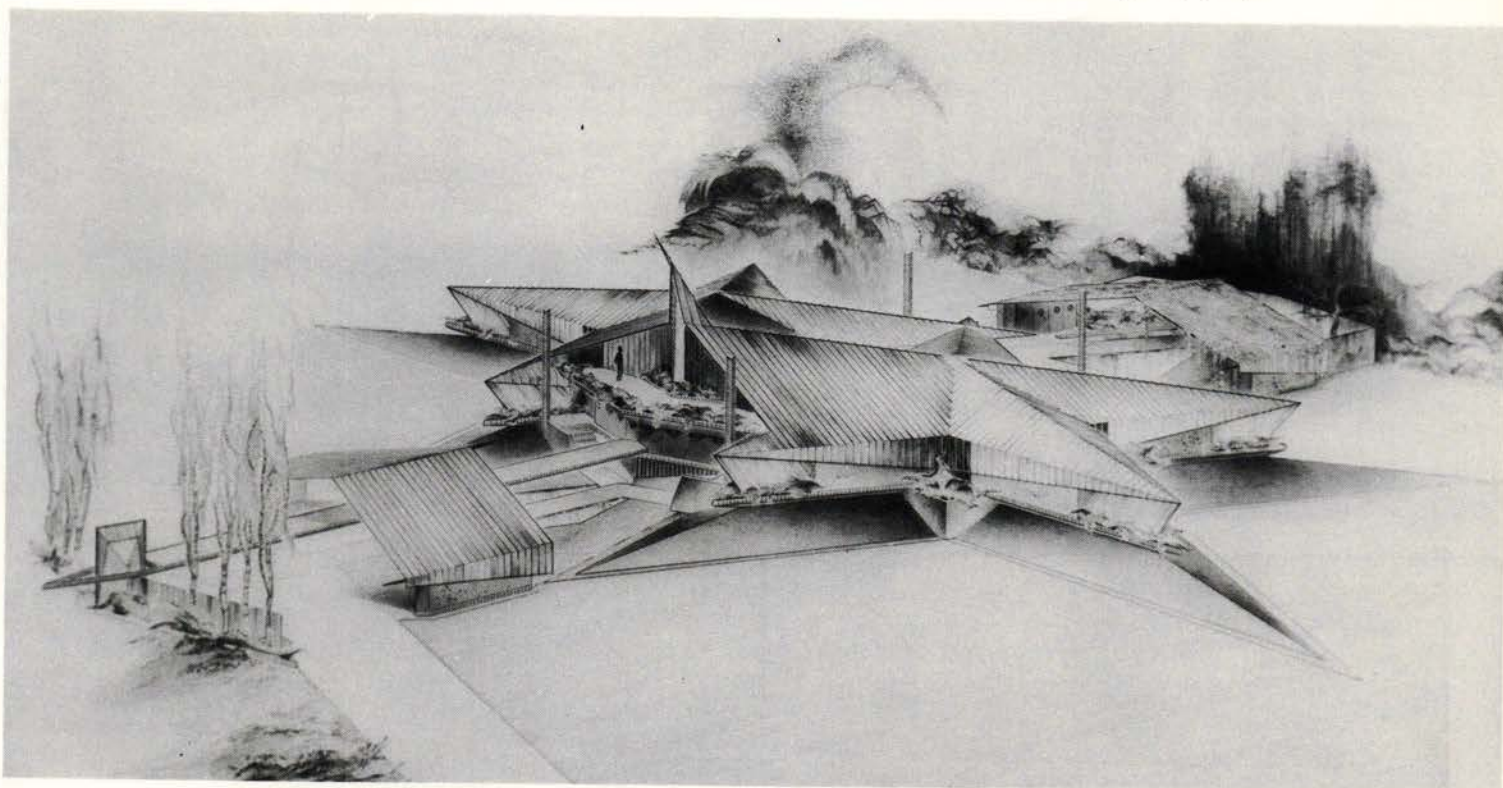
Bass House/Oklahoma/1956

Bass House, Tulsa, Oklahoma (1956)

The carport is screened from the road by a low wall of translucent glass along two sides of a lily pool. A covered walk leads through the carport across the forecourt of white raked sand, with reflecting pools, to the main entrance at the right. The entrance door is of pale green marble, as are all closet walls and sliding doors for same. Sliding translucent glass doors in gunmetal frames open into the marble-floored recreation room with

fountain. This space opens out on to the screened porch and sliding translucent glass walls also open to the carpeted parents' living-room and the daughter's living-room. Bedrooms open off these living-rooms. The dining-room opens off the parents' living-room and has direct service from the kitchen. A service entrance opens into this space, with servants' stairs leading down to their rooms in the semi-basement. A swimming pool adjoins the porch and dressing rooms and showers are connected by a

wisteria-covered arbour. The entire house is built on a star-shaped grass-covered berm. The roof is of stan-steel construction, covered inside with metal lath, sprayed with white acoustic-insulating asbestos, and covered with raised seam pale-blue anodized aluminium. Carpets to be pale green and all furniture, including dinnerware, glasses, etc. will be designed by the architect. All baths are sunken marble-lined pools screened with translucent glass
Bruce Goff (AD, 5/57)

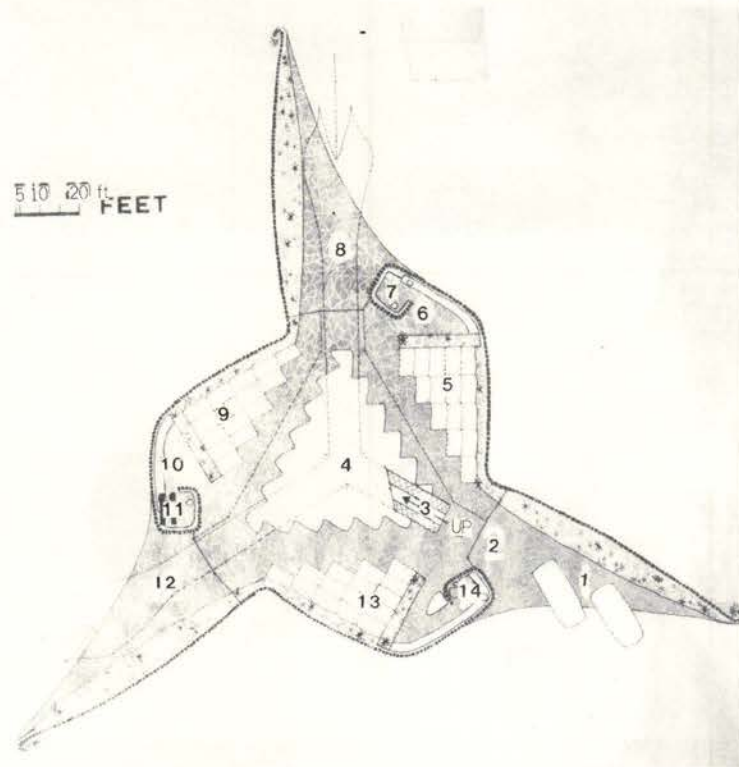
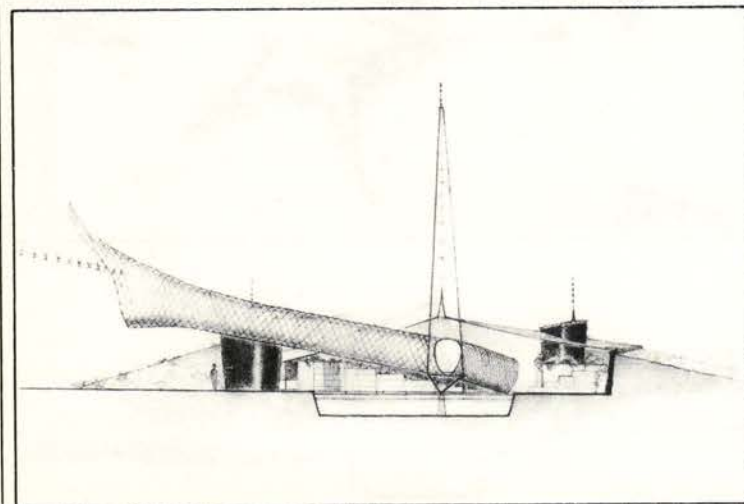
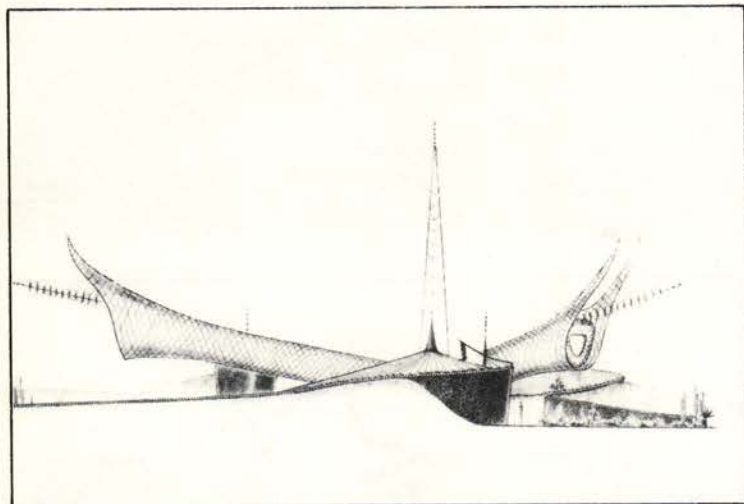
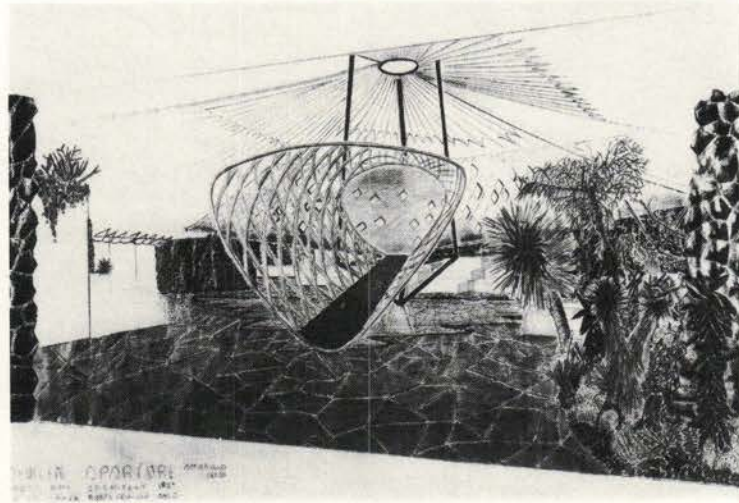
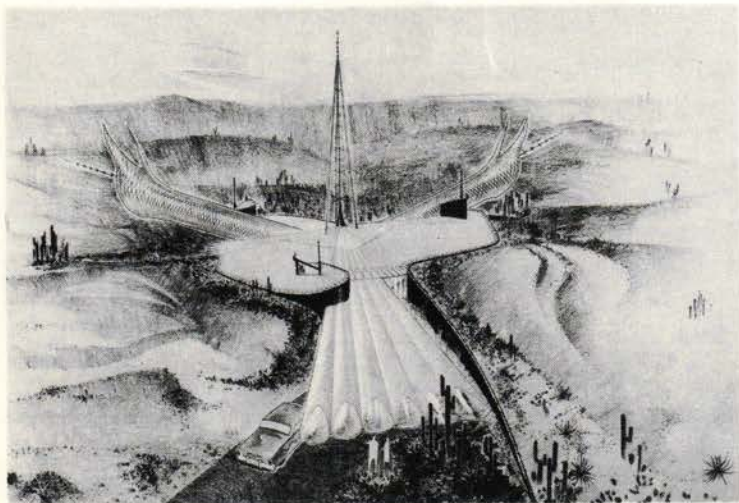


Dewlen Aparture/Texas/1956

Dewlen Aparture Project, Amarillo, Texas (1956)
 The Dewlens, notes David De Long, were two writers who owned 100 acres of semi-arid grassland in the western part of Texas. They had both visited the Bavinger house and this had led them to Goff. The site was to have been excavated with the spoil banked to form an earth berm retained by three curved walls, made of coal with mortar coloured gold with iron pyrites, and describing an approximately triangular area. A steel tripod was to rise

from a central swimming pool. Wires stretching from this tripod supported a roof of stretched fabric sprayed on the outside with a protective coating of aluminium particles in mastic, and with white insulating foam on the inside. Skylights were to be positioned at both the centre of the roof and along the perimeter (to highlight the black coal walls with their golden joints). Inside, each of the perimeter walls defined a separate living space (family, parents', son's), and was terminated by a tight

curve enclosing service areas. There was to be no conventional furniture, but stepped platforms covered in white carpet and with tables, beds, and storage concealed within them. From the carport entrance a tube of metal rods, supported from the tripod, was to ramp up over the central pool and join two similar tubes, each of which was to terminate in studio spaces overlooking the desert. The tubes were to be sprayed inside with white plastic and to have red carpets.



Key:

- 1: carport
- 2: entry
- 3: tube-ramp up
- 4: swimming pool
- 5: parents' living
- 6: parents' dressing
- 7: parents' bath
- 8: parents' terrace
- 9: son's bath
- 10: son's living
- 11: son's terrace
- 12: son's terrace
- 13: guest's living
- 14: kitchen and dining rooms

Note:

Father's study at end of tube (above 12)
 Mother's studio at end of tube (above 8)
 Tube-ramp also serves as gallery for paintings

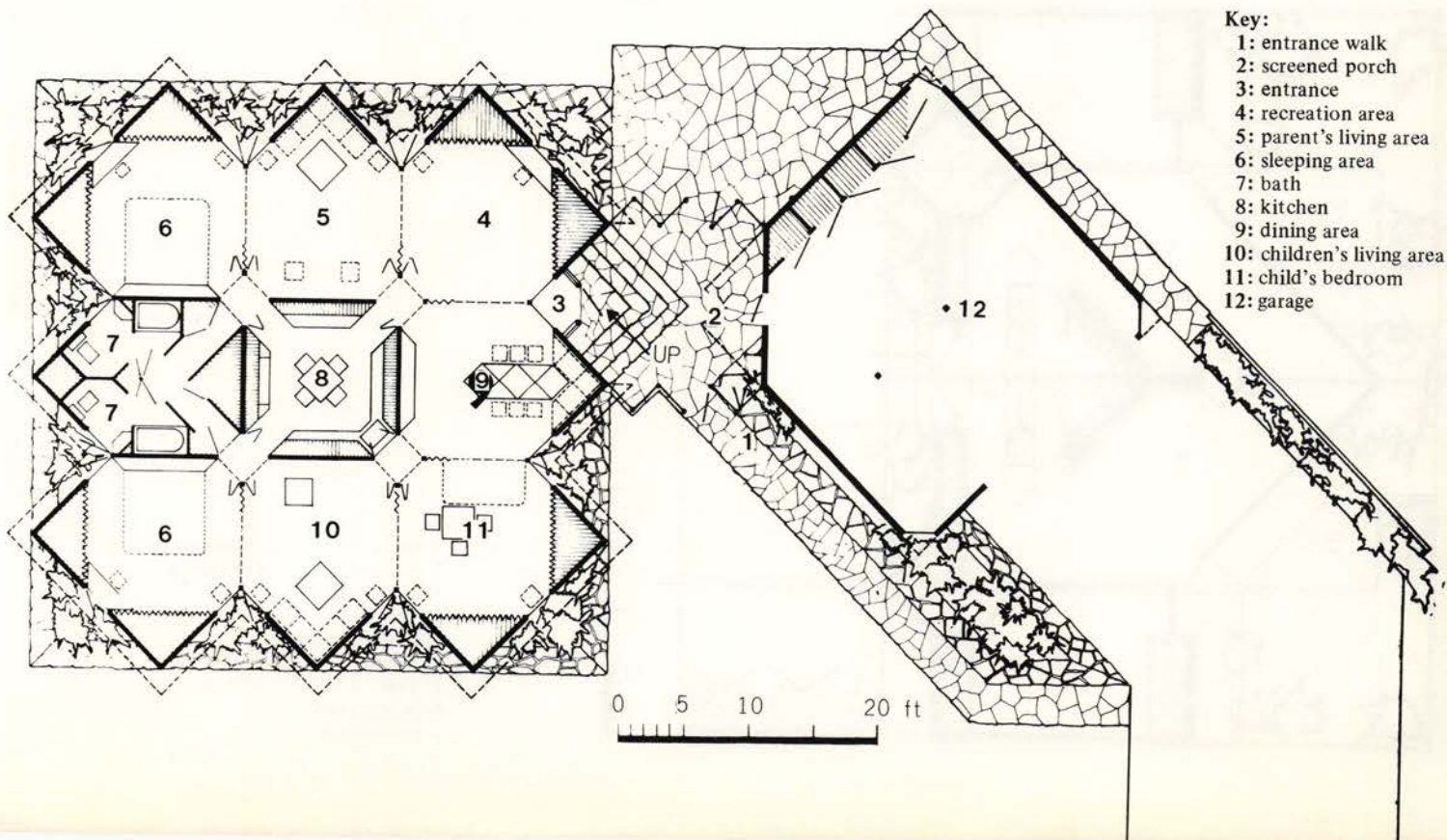
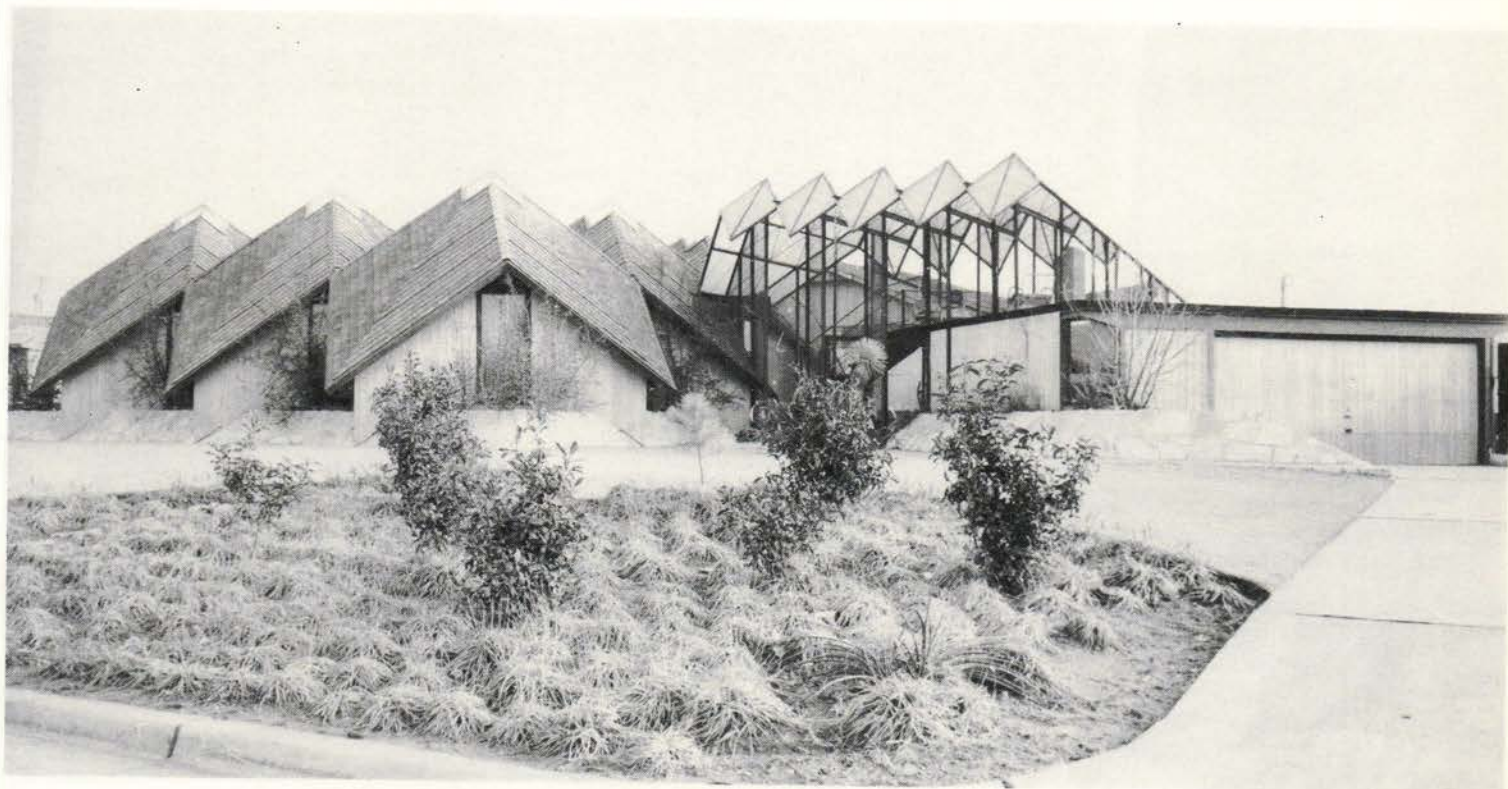
Pollock House/Oklahoma/1957

Pollock House, Oklahoma City, Oklahoma (1957)
The Pollock house is based on a plan of nine interlocking squares surmounted on a battered stone base — also in the form of a square. Each of the smaller squares is covered with a pyramidal room, the saw-tooth fascias of which echo the plan. A pyramidal skylight is positioned at the peak of each roof. The roofs, notes De Long, are covered with wood shingles which were originally painted dark green — the vertical siding of the wood-framed

structure is painted light green. At each interlocking corner of the squares are narrow full-height windows overlooking triangular planters formed between the sawtooth plan of the walls and the stone base. Between the garage and the house, and spanning the entrance, is a large screened enclosure which follows the geometry of the rest of the house, but on a slightly reduced scale, and slightly taller. This structure is wholly glazed and finished with pyramidal formed, translucent, green plastic

roof panels. The structure of this outdoor living area encompasses part of the garage roof which is used as a sun-deck. Inside, the house is organised around a central kitchen (at Mrs Pollock's request) and divided into various spatial configurations by accordion doors.

Against Goff's advice the Pollocks commissioned landscape architects who repeated the 45° geometry of the plan in a hard-edged pattern of planting areas.



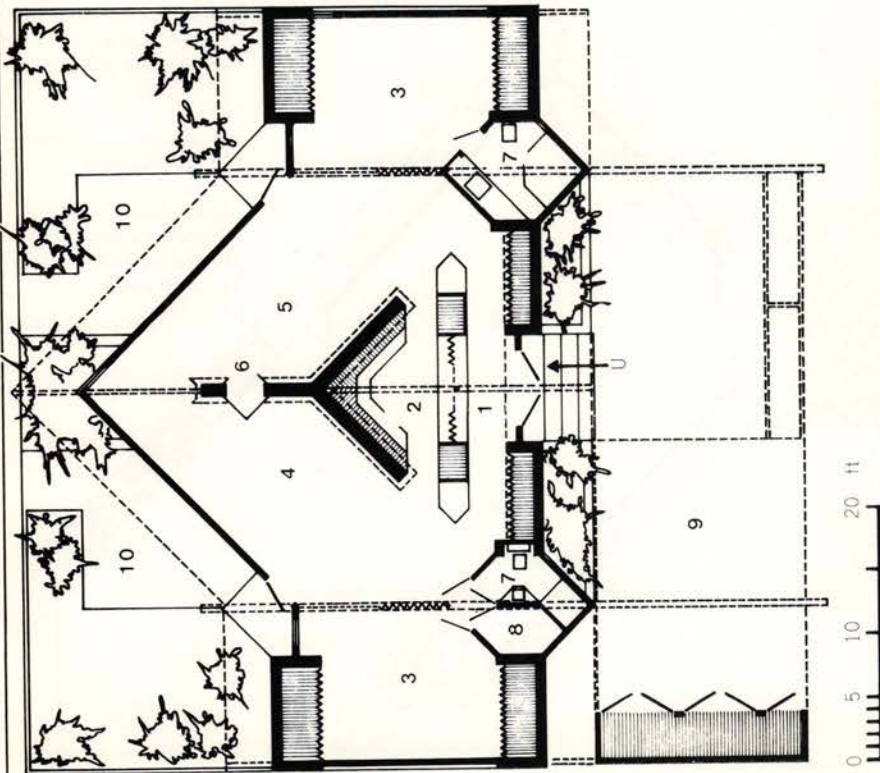
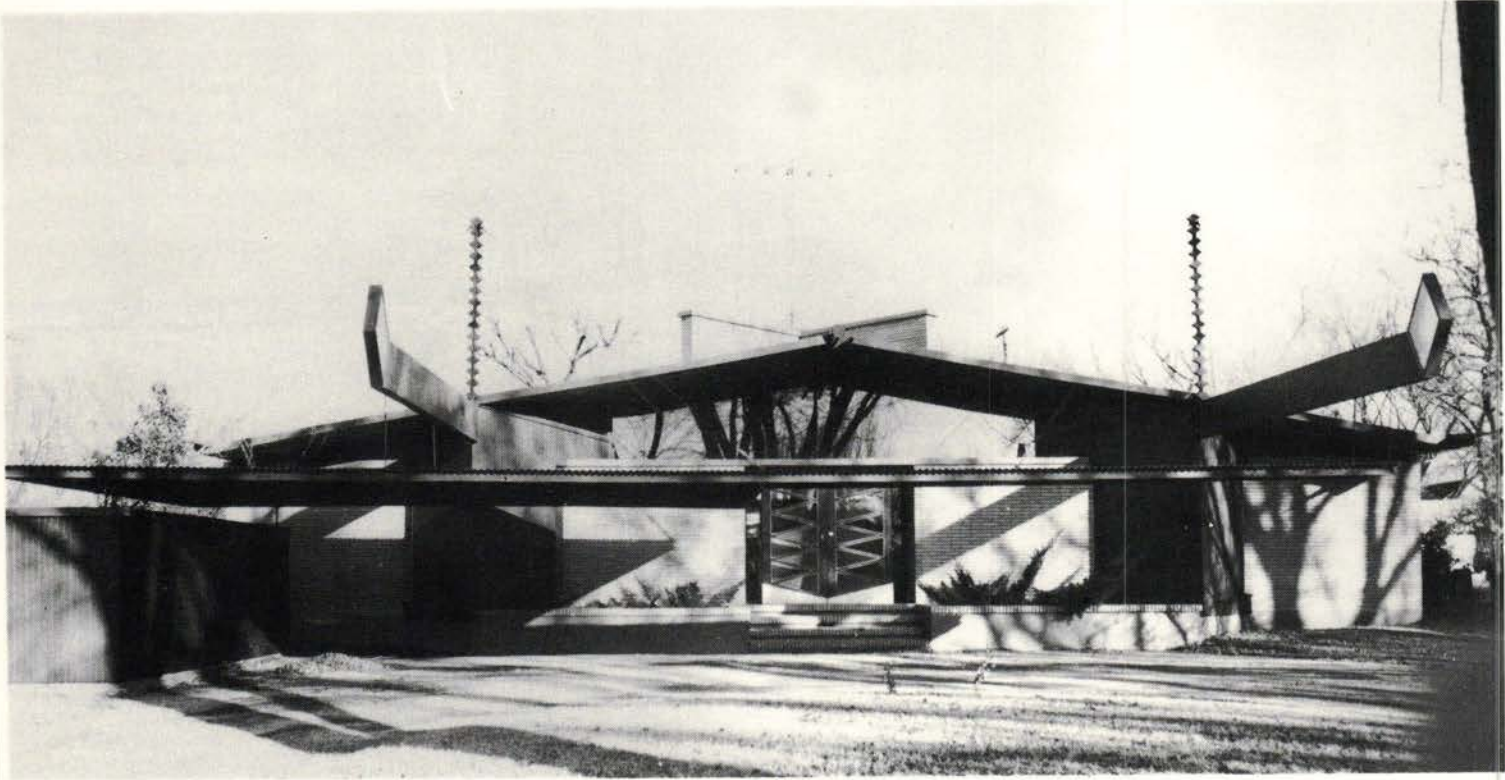
Comer House/Oklahoma/1956

Comer House, Dewey, Oklahoma (1957)
 David De Long, who interviewed the Comers in 1974, reports that Mr Comer, who was a real estate and insurance agent, originally heard of Goff through business contacts. He and his wife both wanted a house which was different from the ordinary, though they had limited funds and felt constrained by the proximity of neighbours. While the house cost more than expected (Goff remembers that it cost \$22 000), the Comers are proud

of the result and claim they would choose Goff as their architect should they ever build another house.

De Long considers the Comer house as Goff's most subdued design in 1957. It is timber-framed with some brick walls and vertical timber siding. The plan form reflects Mrs Comer's request for a Y-shaped division of space with the kitchen at the centre, living and dining areas to either side, and bedrooms bordering this central space. The angled

bathroom units repeat the form of the central living space. Laminated timber beams cantilever over the driveway, emphasising the low proportions of the house and supporting a canopy over the carport. Goff has decorated the ends of the beams, the glass entrance doors and the sculptured poles that guy the carport canopy with triangular motifs.



- Key:**
- 1: entry
 - 2: kitchen
 - 3: bedroom
 - 4: living room
 - 5: recreation room
 - 6: fireplace
 - 7: bath
 - 8: heating and ventilation
 - 9: carport
 - 10: terrace

Jones House/Oklahoma/1958

Howard and Lucile Jones
Bartlesville, Oklahoma (1958)

Howard, a manufacturer of farm equipment, and his wife Lucile, both in their early 50s, saw the work of Bruce Goff in and around Bartlesville³ and were impressed. Their children were grown and they decided they wanted a home to retire in, a place for entertaining and for gatherings of children and grandchildren. Lucile also wished for a place to show her collection of early American furniture and glassware. The first scheme designed by Goff was discussed extensively, after which Goff designed a second scheme which was acceptable. This scheme was built, and although slightly over the budget, the Joneses were satisfied with Goff's professional abilities. The plan shows great flexibility in accommodating various numbers of guests, and the special design feature of the birdsmouth window and shelf is a very successful display area for the glassware.

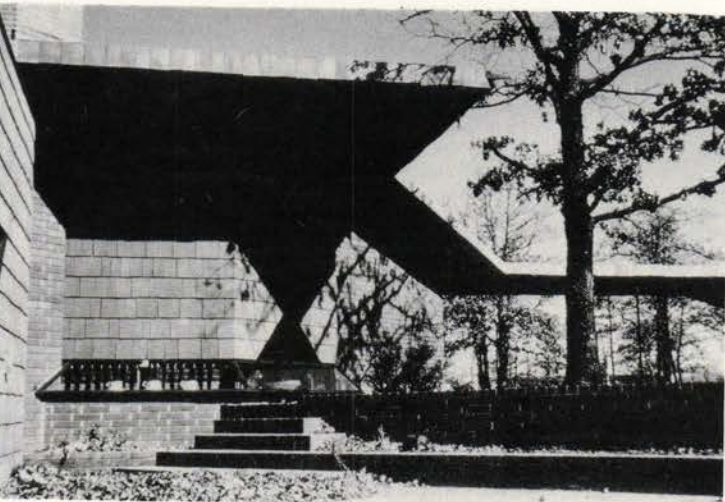
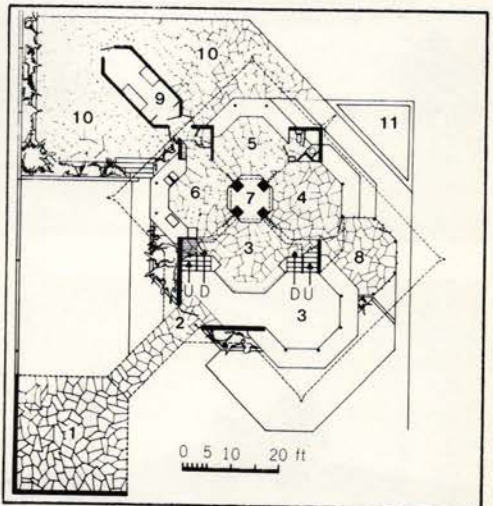
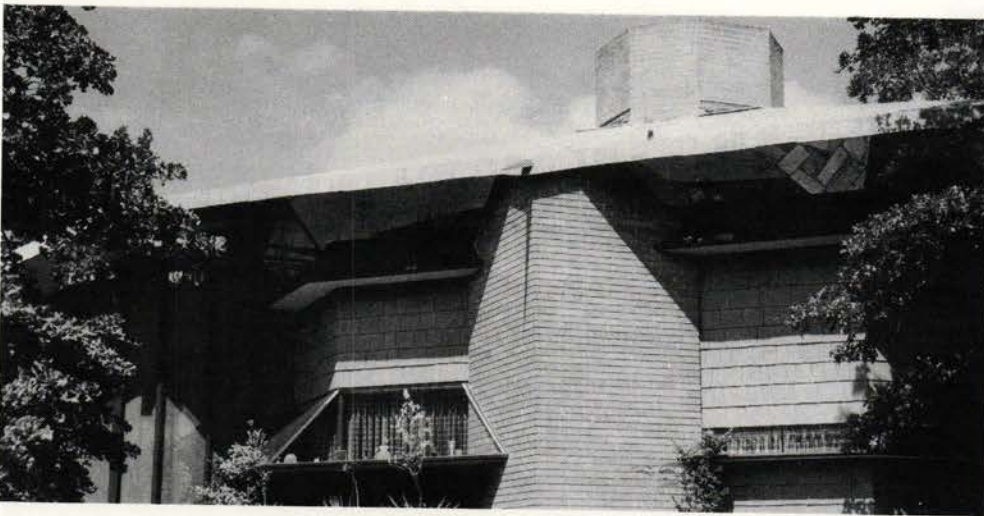
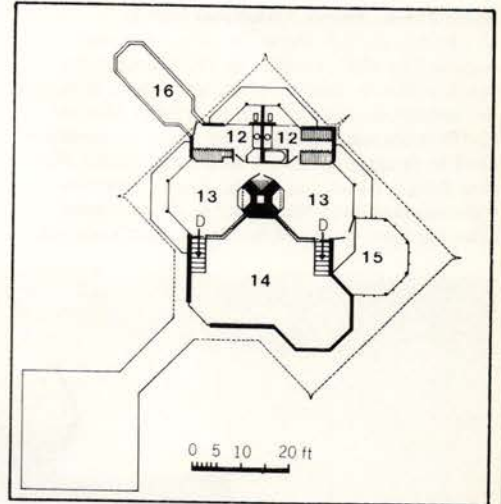
Lucile Jones is a satisfied customer:

I am happy with the design of my home after living in it for over 17 years and I would approach Mr Goff if I were considering another home.

3 Probably the Frank House in Sapulpa, the Comer House in Dewey, and the Motesbocker and White houses in Bartlesville.

Key:

- | | |
|-------------------|----------------------------------|
| 1: carport | 10: terrace |
| 2: entrance | 11: lily pool |
| 3: living area | 12: bathroom |
| 4: dining area | 13: sleeping area |
| 5: hobby area | 14: upper part of living area |
| 6: kitchen | 15: upper part of screened porch |
| 7: fireplace | 16: sun deck |
| 8: screened porch | |
| 9: utility area | |



Jones House, Bartlesville, Oklahoma, 1958
Four octagonal spaces clustered around an octagonal chimney stack form the basis of the design. Entry is at split level into the extended area of the living room. Slightly below is the octagon of the living room, and the octagons of the kitchen, den, and dining room. Above is a three octagon mezzanine of bedrooms. All the lower spaces may be opened into one or separated with folding doors. Bathrooms above and storage/wc's below form

closed square service units to one side, while open square units at the other contain stairs. The roof is pyramidal shaped, its apex at the chimney stack, with one plane sweeping low to cover the extended area of the living room and an octagonal porch. The interior is lit by a skylight which surrounds the chimney stack, and by specially designed birdsmouth windows with projecting sills. The materials for the house are mauve bricks and shingles stained mint green, with beams and

trim painted indigo. Interior ceiling, balustrade, and built-in furniture are in natural finished pine. The birdsmouth windows provide a showcase for Lucile Jones' collection of early American glassware, while creating a special relationship with the surrounding nature.

Barby House/Oklahoma/1962

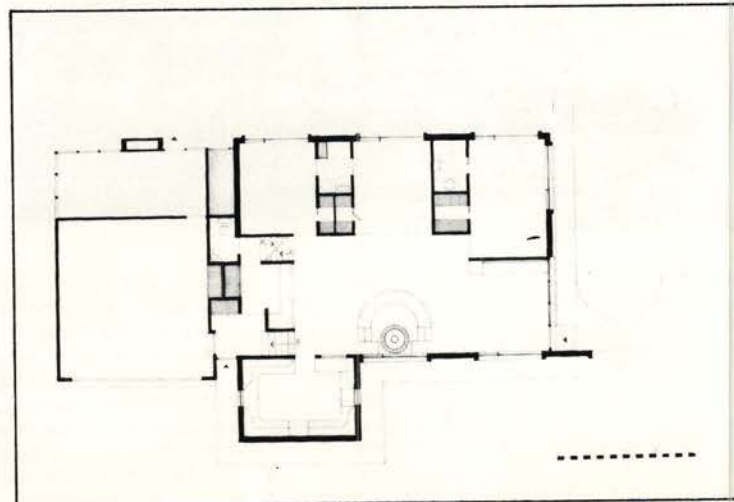
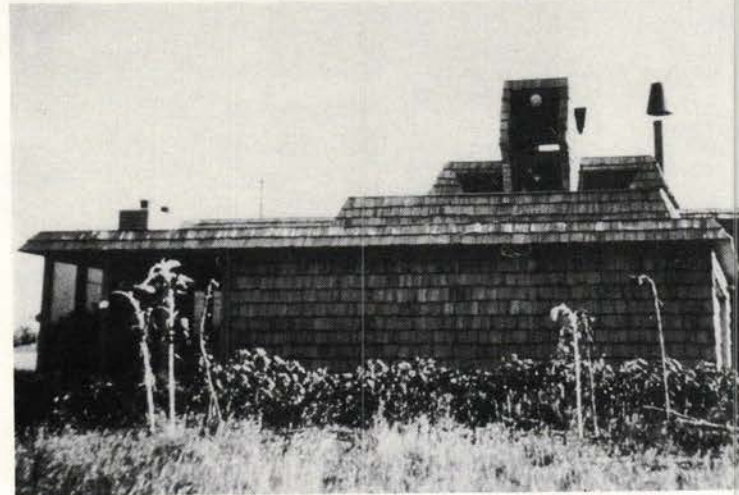
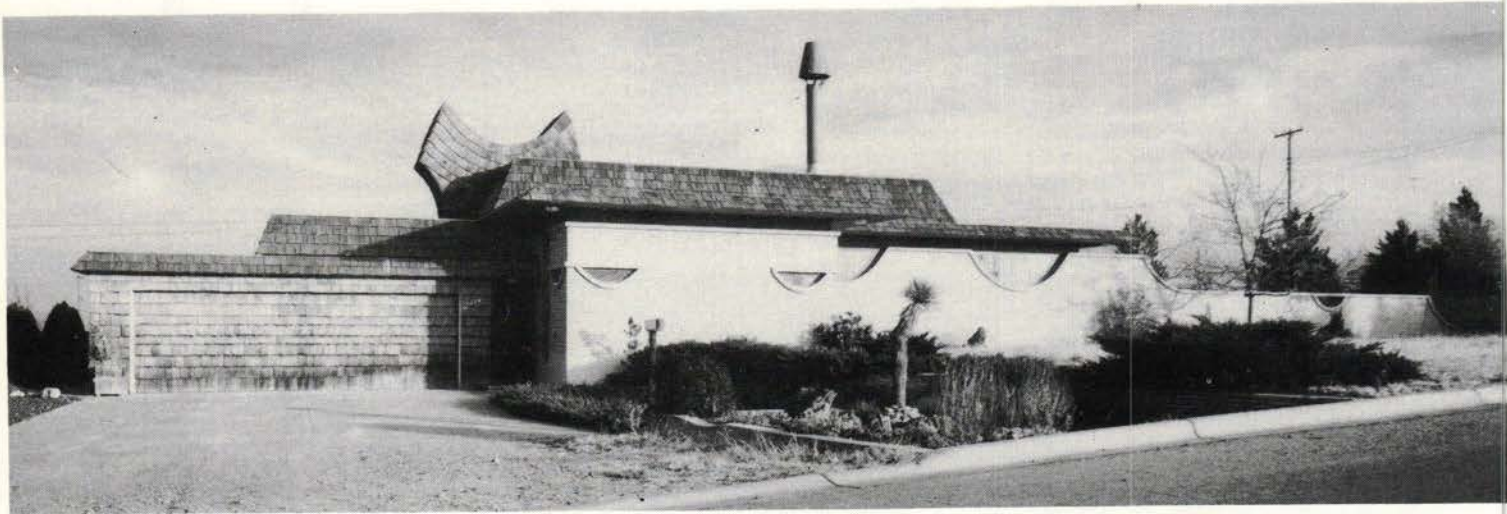
Barby House, Beaver, Oklahoma (1962)

Mrs Barby, records David De Long, who was widowed in 1955, decided in 1962 to leave her ranch to live in Beaver, where she wished to pursue her interest in painting. Her art teacher admired Goff's work and this finally led her to commission Goff to design a combined house and studio. His first design, which was a long, narrow structure with rounded ends, struck her as too confining after the open spaces of her ranch. Goff's second

design was more conservative, but provided the large living space she required. A raised concave shingled hood shades large windows at one end of this room. These windows also light the mezzanine-level studio. The curves of this hood are repeated in the semi-circular windows that run along the top of the brick walls.

When De Long interviewed Mrs Barby in 1974, she showed him Goff's preliminary designs for a second house, in Tucson, and she enthusiastically

described this design as reflecting her broadened understanding of architecture, facilitated, she believes, by living in her first Goff-designed house.



Dace House/Oklahoma/1964

Dace House, Beaver, Oklahoma (1964)

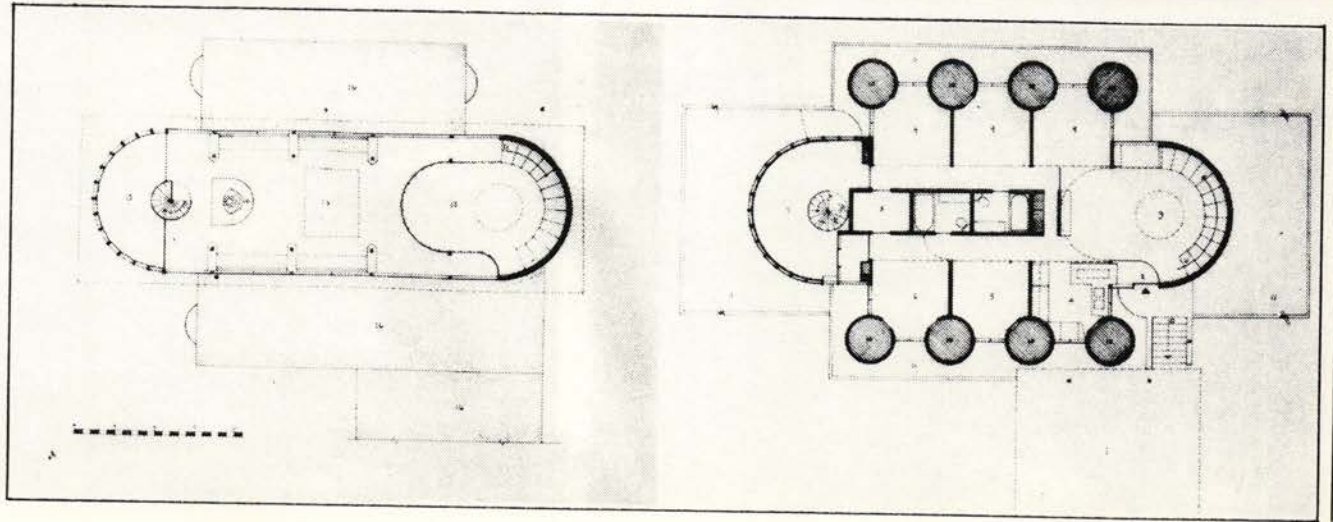
The Dace house is unusual because it contains virtually no ornament or strongly textured materials. Instead, it relies on sharply defined volumes to achieve the rich architectonic quality normally associated with Goff's work. The surfaces of the house are finished with smooth stucco, with the cylindrical elements painted red in contrast to the white planar walls. The low cylinders along each side of the house define six identical rooms and

contain revolving closets. These rooms house the five bedrooms and the kitchen and open onto a central bay with service rooms. At one end, adjacent to the kitchen, is a semi-circular dining room, and at the other, a living area – both of these are double-height spaces connected to an upper-level formal living area by a circular stair. This upper-level, with its balustrade of cables supporting the floor, appears to float above the ground floor level.

Goff, notes De Long, recalls that the Daces were reluctant to specify their needs for fear of influencing his thinking. Although the opposite was their intention, this made designing the house all the more difficult for him. Speaking generally of this problem, Goff said in 1972, 'that the most difficult commission would be from a client who said "build me a house of anything you like, wherever you wish with no limitations on the budget".'



- Key:
- 1: carport
 - 2: entry
 - 3: dining
 - 4: kitchen
 - 5: bedroom
 - 6: bedroom
 - 7: recreation area
 - 8: utility room
 - 9: bedroom
 - 10: cupboard
 - 11: garden
 - 12: upper part of dining
 - 13: living
 - 14: fireplace
 - 15: upper part of recreation
 - 16: roof (below)



Bavinger House/Oklahoma/1949

Gene and Nancy Bavinger
Norman, Oklahoma (1949)

The story of the Bavingers has been told before,¹ and yet the sheer strength and tranquillity of this home demands that it be repeated. Gene, a professor of art at Oklahoma University, and Nancy, an art graduate and ceramic artist, both in their late 20s, became friends with Bruce Goff, then chairman of the school of architecture at OU in the late 40s. Both men were attracted to each other's artistic abilities. After the arrival of their son, Bill, the Bavingers purchased a site five miles east of Norman in a natural ravine. At this point they contacted Goff because:

they wanted a place to live that suited their needs as well as having a visually exciting architecture.

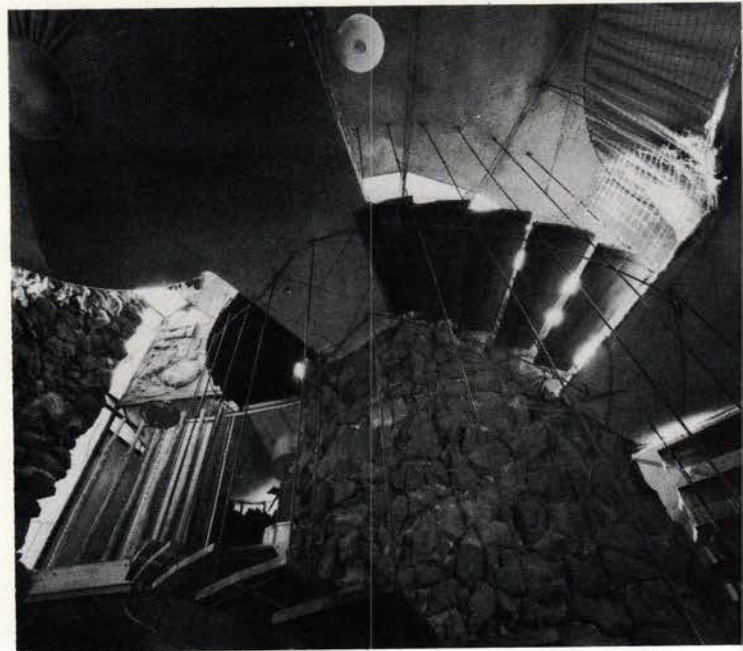
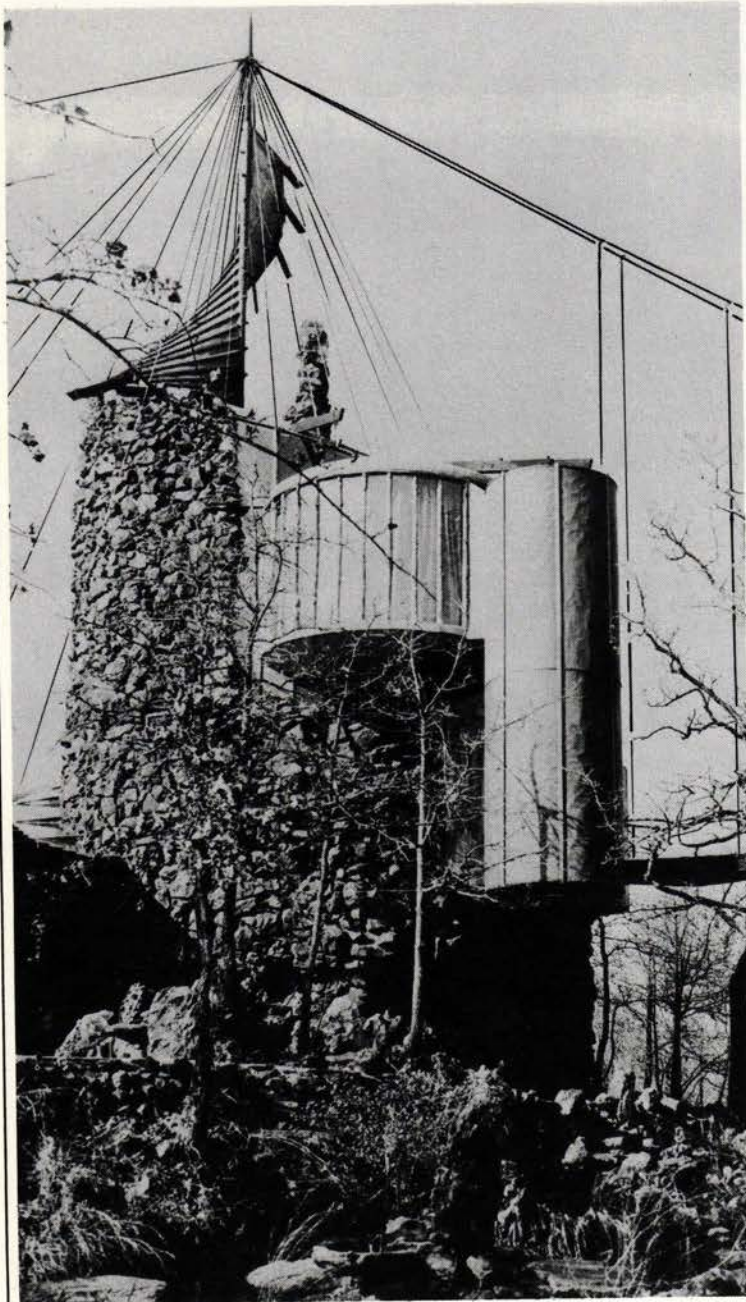
Goff's response needs restating:

When the Bavingers came to me they had several unusual requirements which were both challenging and inspiring. First of all, they disliked the idea of living in the usual conglomeration of boxes with holes cut in them for doors and windows. They already had one of those and found it too restricting to their way of life. They wished a large open space in which all of their needs could be satisfied, and these included the usual functions of a family house plus it needed to accommodate a vast array of tropical plants and a pool for tropical fish.

This meeting was the one and only meeting required to spark a design which attracted international attention. The initial design was built, with a few minor alterations due to cost of materials, by the Bavingers and a number of architectural students from OU. Bill Wilson, a neighbour of the Bavingers and an associate of Goff's at the University, assisted with the engineering. The house took several years

to construct and Goff suggests that 'the house will probably never be complete because it is intended to keep growing'. Years later a separate studio, designed by Goff, was added, and even later the roofing material was changed after consulting Goff. While the cost of the original house will probably never be known, it is reasonable to assume that it was relatively inexpensive. The design has served the Bavingers well, adapting and growing over a period of almost 30 years. When asked if he was pleased with his home and, if he were to build another, would he employ Goff, Gene Bavinger replied simply and succinctly: 'I am *very* satisfied and have no intention of building another home'. (Apostles of user satisfaction take note.)

1 *Sooner Magazine*, 9/1955, pp5-9.



'The site is a ravine characteristic of this part of Oklahoma, and its natural beauty was disturbed as little as possible. There was a natural clearing at the edge of the lake which was scooped out and became the first level of the house with the native rock showing inside in certain places.

'The client wanted to build the house himself with the help of student labour and inasmuch as the Bavingers are very fond of the sandstone rock natural to the site, it was used in a continuous wall 96 ft long, which takes the form of a logarithmic spiral crawling up out of the ground near the entrance and coiling around a steel pole from which the entire roof, the interior stairs and living area bowls and the bridge are suspended.

'We enter from the side towards the lake where the ceiling is low and the interior space is broad. The ceiling spirals upwards to a height of three storeys at the center of the coil where the kitchen is located on the first, the bathroom on the second and the painting studio on the third floors. At no

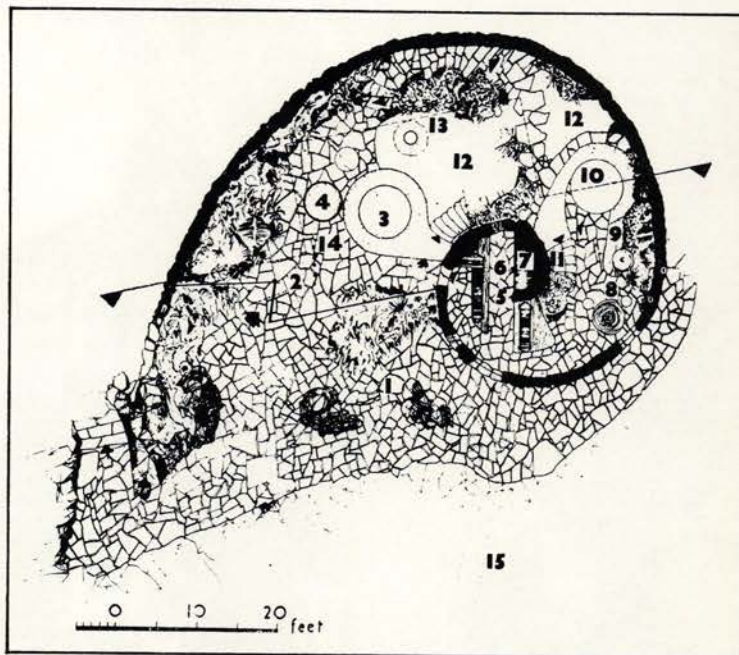
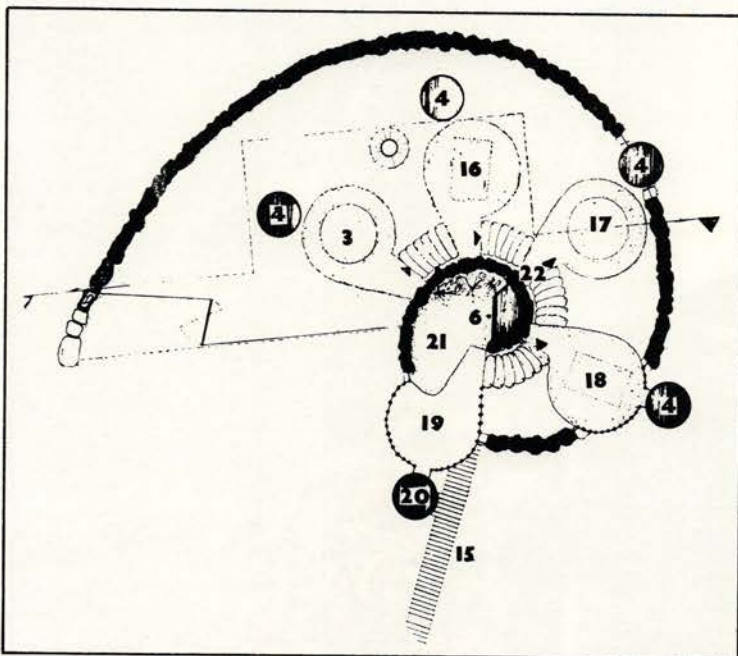
time can we see all this interior space at once, which is treated as a conservatory for plants and birds with five living areas in the shape of carpeted bowls suspended around the centre coil and stepped up at intervals of three feet, each having its satellite circular revolving closet of copper.

'The first of these is the living area in which comfortable lounging furniture is integral, the second is the parents' sleeping space which can be made privately by closing the surrounding curtains. The third level is the child's play space which opens across the stairway into the passage connecting the bathroom and opens out onto the suspension bridge crossing the lake to the flower garden on the opposite side. From this level there is also another stairway which leads down to the dining area underneath the play space. The fourth level is the child's sleeping area and the fifth is Gene Bavinger's painting studio with a large window towards the west where Norman can be seen five miles in the distance and from which the magnifi-

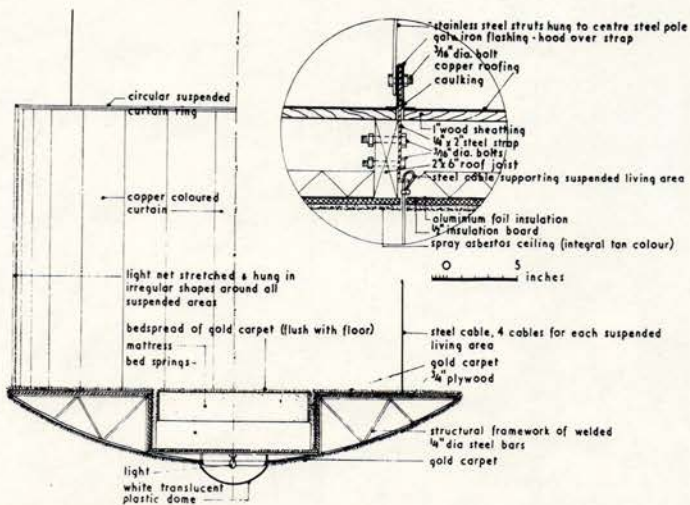
cent sunsets of this part of the country can be viewed. On the main entrance level, we have the outside flagstone terrace continuing inside through a glass wall and there is an interior pool over which is suspended a fireplace.

'Cabinets separate the dining space from the kitchen which opens into the entrance space through an irregular hole in the stone wall. Thus, the entire interior is a continuous flow of space wherein neither walls nor floor and ceiling are parallel. Here, more completely than in any other house of this time, is an architectural expression of the way of life of the client, a sense of living in space three-dimensionally with furniture integral as part of the house itself, and close integration with nature indoors and out.'

Bruce Goff (AD, 5/57)

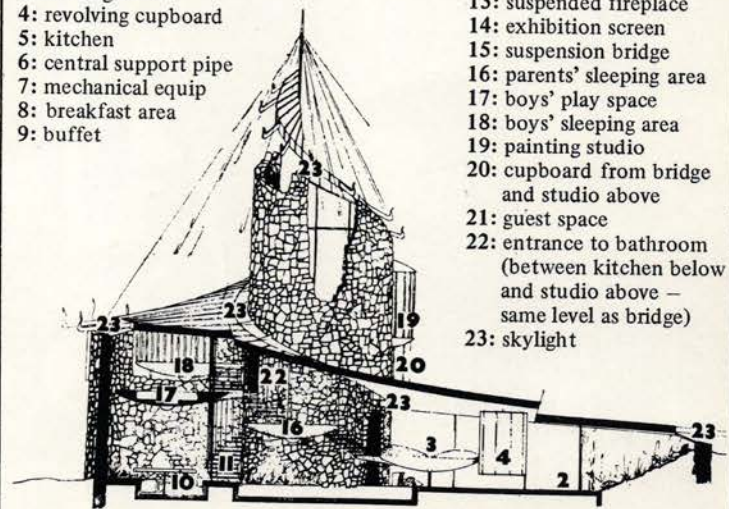


Below: detail of a suspended bedroom area



Key:

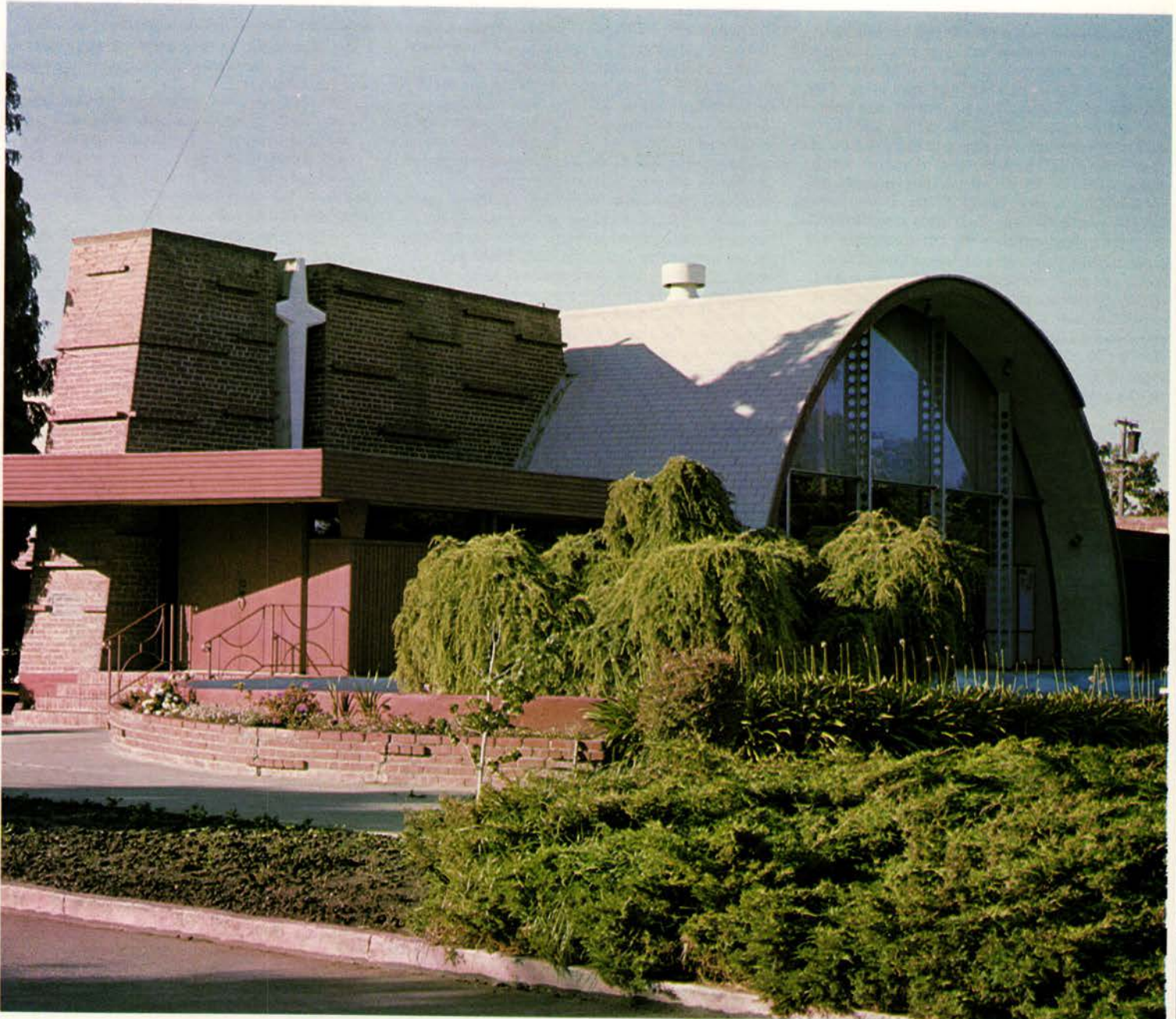
- 1: flagstone terrace
- 2: pivoting entry door
- 3: visiting area
- 4: revolving cupboard
- 5: kitchen
- 6: central support pipe
- 7: mechanical equip
- 8: breakfast area
- 9: buffet
- 10: revolving dining table
- 11: stairs up to bath level
- 12: pool
- 13: suspended fireplace
- 14: exhibition screen
- 15: suspension bridge
- 16: parents' sleeping area
- 17: boys' play space
- 18: boys' sleeping area
- 19: painting studio
- 20: cupboard from bridge and studio above
- 21: guest space
- 22: entrance to bathroom (between kitchen below and studio above - same level as bridge)
- 23: skylight



Bavinger House / Oklahoma / 1949

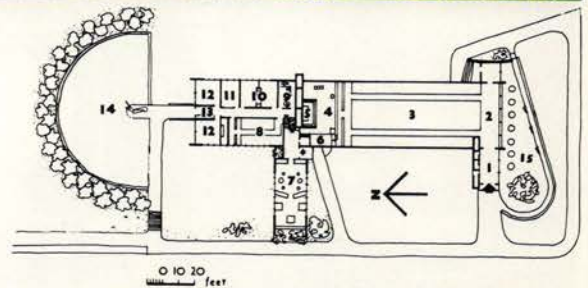
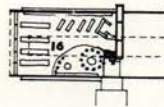


Seabee Chapel/California/1944



Key:

- | | |
|-----------------|-------------------------|
| 1: entry | 10: sacristies |
| 2: narthex | 11: office |
| 3: chapel | 12: chaplain's office |
| 4: chancel | 13: waiting |
| 5: altar | 14: garden |
| 6: choir | 15: pool |
| 7: Navy Relief | |
| 8: small chapel | |
| 9: toilets | |
| | Upper floor key: |
| | 16: library |



Chapel at Camp Parks, California (1944)

Towards the end of the war, Goff was transferred from the Aleutians to Camp Parks, where, still as a non-commissioned officer (he had refused the opportunity to become an officer) word got through from his former commander that Goff was a creative and cooperative architect. The chapel, which was multi-denominational, was constructed from surplus Quonset hut elements. Two 'elephant' Quonset huts, each 40ft x 100ft, were connected

to form a 200ft long enclosure, two-thirds of which was occupied by the chapel. The building was situated by Goff on sloping ground so that a pitched floor within the chapel could be achieved with a minimum of effort. The back of the building contained offices. A smaller Quonset structure to one side of the chapel housed the offices of the Navy charity organisation. Two brick walls penetrated the main space, one at the entrance and the second behind the altar. A skylight ran the full

length of the chapel. The colours used by Goff bear mentioning: the arched ends were glazed with blue tinted glass; the brickwork was salmon pink; the exterior of the Quonset structure olive-green; the floors rust-coloured tiles and coppery-pink carpet; the ceiling, light pink.

When Camp Parks was closed after the war the chapel was purchased and re-erected by the nearby community of San Lorenzo.

Nicol House/Missouri/1964

Kansas City, Missouri (1964)

Jim, chairman of a local bank, and his wife Betty, an art and architecture buff, were both in their mid 40s when a friend invited them to a lecture by Goff at the Kansas City Art Institute. From their response to the questionnaire it must have been love at first sight. Goff and the Nicols stuck by each other through two sites and three designs and they believe their faith has been rewarded. When asked, Goff told them that the starting point for their design was 'their family of five, a close family, yet independently individual' (this is confirmed by three individual replies to the questionnaire). Yet other starting points also emerge, a love of sun, moon and stars, the weather, closeness to nature, theatre (puppets especially), drama (the house is called 'Camelot'), and a broad interest in literature and the arts. However, the plan clearly demonstrates Goff's view of the family. The plan consists of eight small octagons in pairs around four polygonal service units, leaving a coptic cruciform-like central

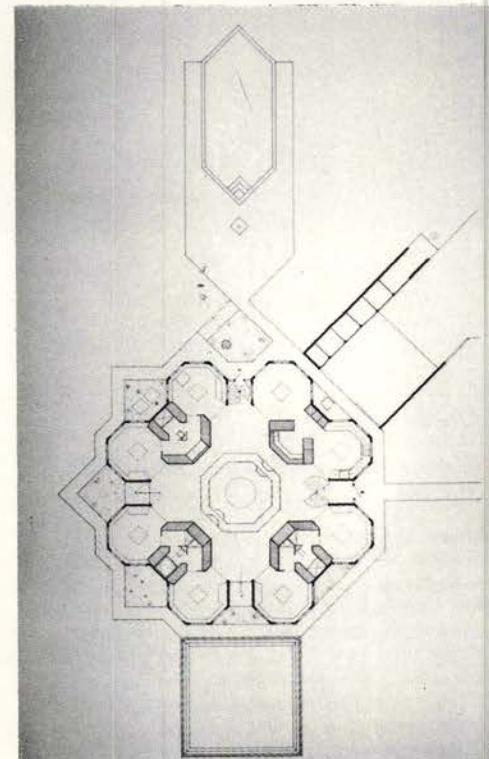
space with a large octagonal pit. The small octagons house kitchen, dining, den and individuals, while the large octagon houses the family. All members of the family of parents, two daughters and a son (aged seven at the time) were consulted and involved in the design process, and the discussions and calls to Goff were innumerable. The Nicols were very satisfied with Goff's professional handling and supervision of their home. The family was particularly pleased with the fountain and string mirror sculpture in the centre pit (which, on one occasion, actually reflected an eclipse of the sun) and the unusual windows and skylights which are shaded in the summer by deciduous trees. Betty was especially happy that the house was comfortable with just her and Jim at home, and then proceeded to describe in detail how well the house had functioned for a party of 135. Recently Goff designed an outdoor fire pit and seating area for the house, and currently the Nicols are discussing ideas for a smaller home to retire to - with Bruce

Goff as architect. Most striking of all was the Nicols' response to Bruce Goff on a personal level. Jim:

he became part of the family, visiting numerous times on a social basis and sharing meals with us and from Betty:

one of the creative geniuses of our time; a sensitive, kind, imaginative human being with a keen sense of humour . . . who opens up a whole new world of beauty . . . we all love him. In fact our son wanted to legally adopt him and from the eldest daughter, Jamie, who was 13 when she first met Bruce Goff:

he had a very profound effect on us all. Apart from the intense and magical experience of living in a world of his creation, is the wonderful experience of him personally . . . we were all part of his medium, as much as the space, colours, textures and sounds . . . Mr Goff involved us all. He is an extraordinary individual . . . a wizard . . . he has greatly affected my view of the world and the quality of my life.



Duncan House/ Illinois/ 1965

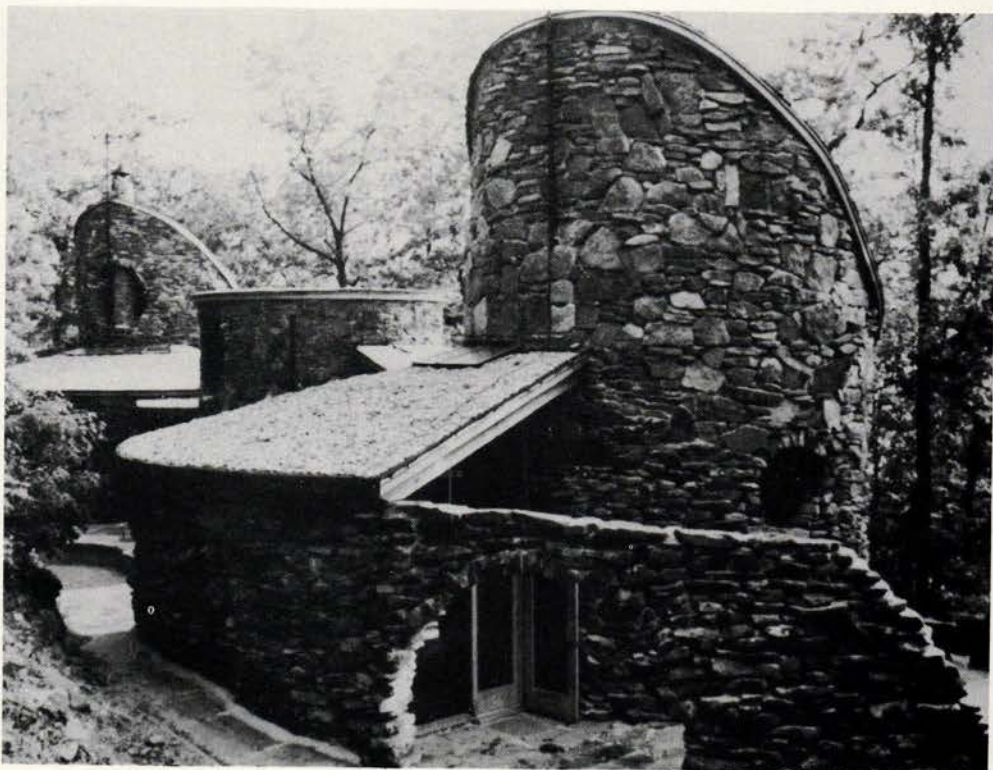
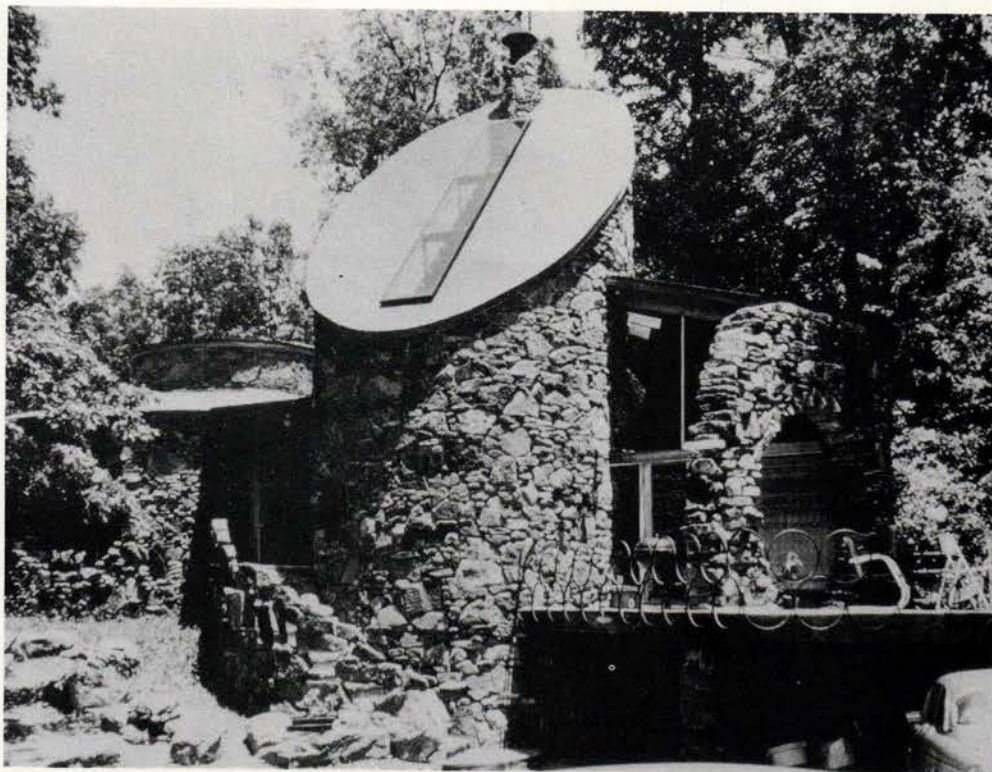
Duncan House, near Cobden, Illinois (1965)

Hugh Dalziel Duncan, who died in 1970, was a sociologist who believed that buildings were not only a reflection of social order, but in some instances, also affected the structure of that order. Duncan's theories relating sociology and architecture may be found in his book, *Culture and Democracy*. Originally the Duncans had lived in a house designed in 1938 by George Fred Keck in Chicago, and which pre-dated many contemporary

concerns for energy conservation and passive solar controls. After teaching at the Illinois Institute of Technology (where he was acquainted with Wright, Mies van der Rohe and Philip Johnson), Duncan was named Professor of Sociology at the University of Southern Illinois. Their move to Carbondale, and the decision to build again, led them to Goff – 'an architect who would be sympathetic to Wright's work, but an individual in his own right'.

An undulating native sandstone spine wall

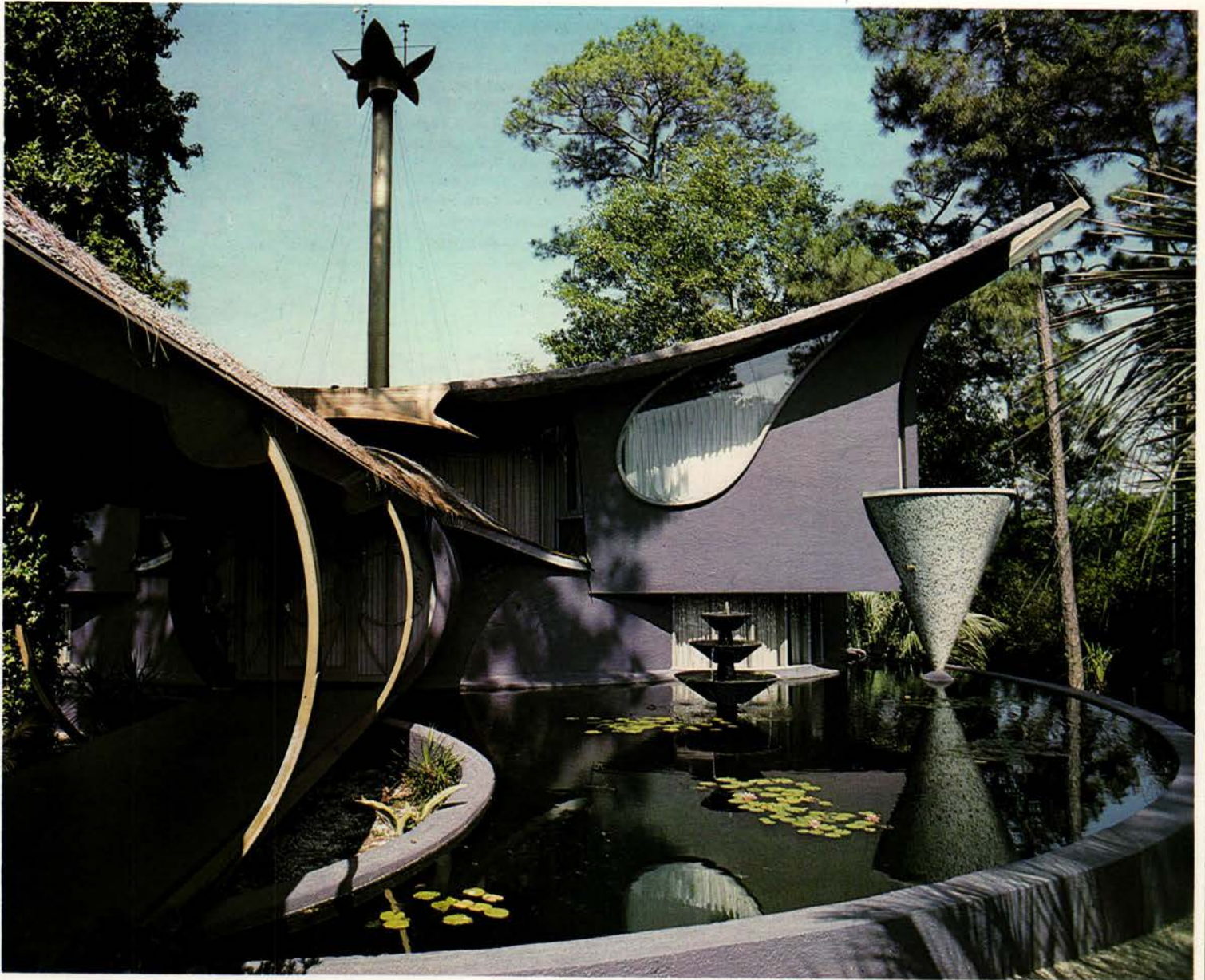
(built in two skins enclosing an insulating core of styrofoam) establishes a strong spatial organisation of cylindrical rooms along a linear axis. The glazing to the circular opening is set inside the line of the curving wall, leaving the openings unimpaired by jambs. Architectural fragments from Mr Duncan's collection, including terra-cotta ornaments and metal grilles by Louis Sullivan, are built into the walls.



Gutman House/Mississippi/1958

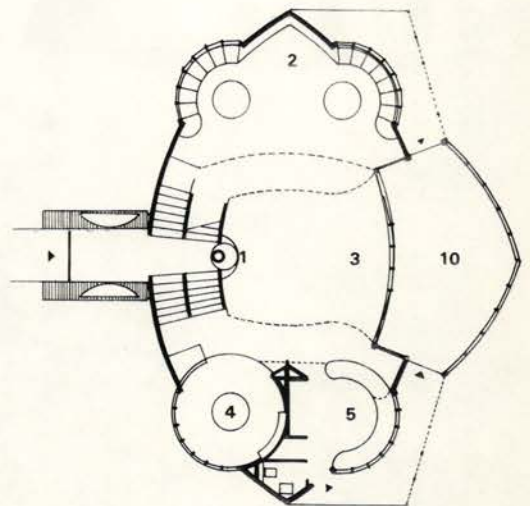
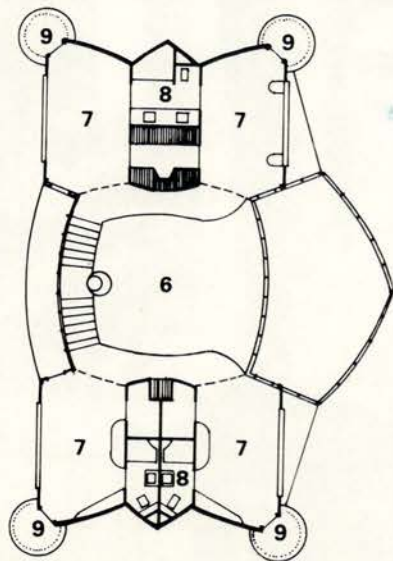


Gryder House / Mississippi / 1960



Key:

- 1: entrance above
- 2: living room
- 3: recreation room
- 4: dining room
- 5: kitchen
- 6: void over living room
- 7: bedroom
- 8: bathroom
- 9: balcony
- 10: screened porch



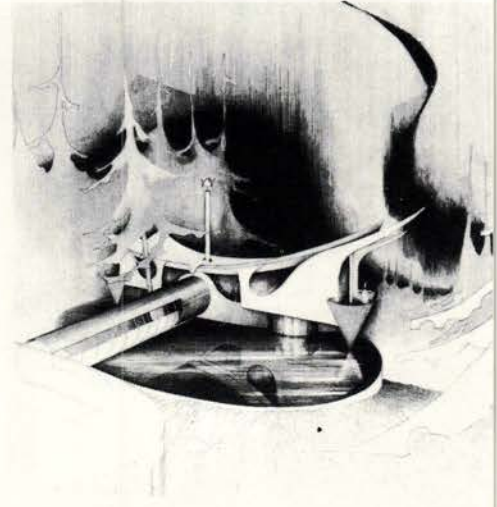
Gryder House / Mississippi / 1960

W C and Elaine Gryder
Ocean Springs, Mississippi (1959)

W C, a businessman, and his wife Elaine, both college graduates in their early 30s, discovered Goff's work in *Cornet* magazine and subsequently went to see the Gutman House under construction in nearby Gulfport. Ocean Springs was also known and beloved by Louis Sullivan⁴ who built his vacation cottage there. Like Sullivan, the Gryders expressed a deep feeling for their site, immense rugged pines, graceful swamp pines, and views of the bayou and their other great love, their deep sea fishing boat. With a beautiful site and two small children they decided that only an architect such as Goff could design a home to suit their lifestyle. The Gryders noted, like other clients, how Goff assisted them in clarifying their numerous ideas. The initial design was accepted and built without the carport and with an alteration to the roofing of the entryway. Recently they again employed Goff

to redesign the carport. Although the original building greatly exceeded the budget, the Gryders' faith in themselves and Goff brought it into existence. They saw Goff as a competent architect and were pleased by the supervision of his former student Bob Faust. After many years residence the Gryders are still very happy with their home. They especially noted how the colour scheme blended in with the surroundings. The house also invokes romantic notions of deep sea fishing. The Gryders 'enjoyed meeting and knowing Mr Goff as he was a most pleasant and kind individual' and believed that only individuals would employ an architect such as he.

4 Hugh Morrison, *Louis Sullivan - Prophet of Modern Architecture*, W W Norton & Co, 1935, pp111-12.



Harder House / Minnesota / 1970

Glen and Luetta Harder
Mountain Lake, Minnesota (1970)

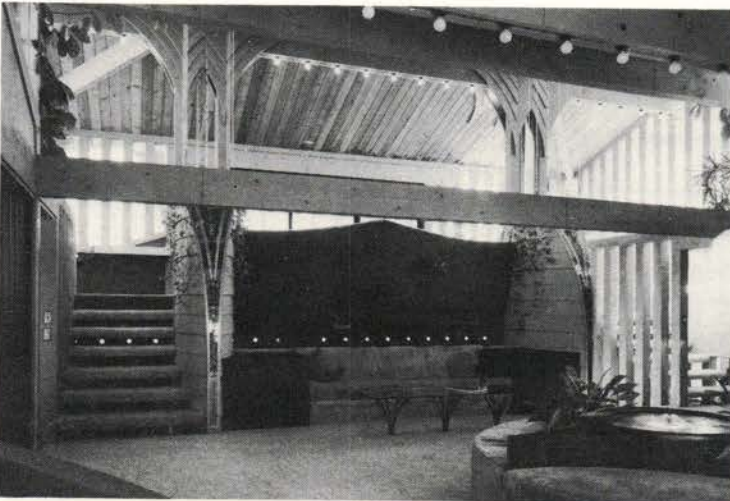
Glen, a farmer specialising in turkeys, and his wife Luetta, involved in women's fashions, both with college educations and in their mid 30s, discovered Bruce Goff through an article in *Friends* magazine. Years later when they decided to build they searched for Goff, remembering his writing:

a house should be a continual inspiration to its owner . . . and should retain its mystery and challenge all its life.

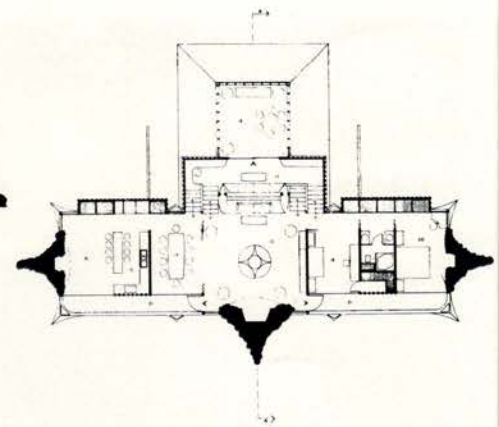
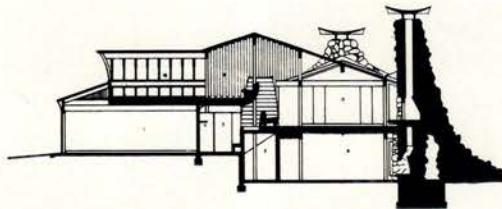
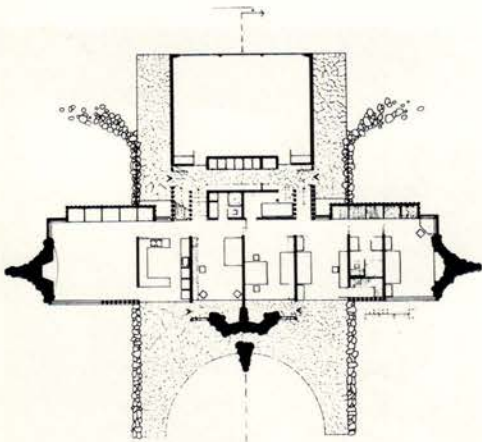
Their site was a small knoll in the middle of a vast corn field. The Harders wanted a retreat from the world, yet internally open to the nature around. They were also keen to see natural materials, wood and fieldstone, with lots of fireplaces, a fountain, and space for indoor planting. Finally they wanted a family centred home, for three young children,

which could also be used for large-scale entertaining. After three intensive meetings, Goff produced the scheme which received immediate approval and which was built. Although the original scheme greatly exceeded the budget, the Harders later employed Goff to design a storage building nearby, and the swimming pool. Recently Glen commissioned Goff to do a painting for Luetta. Professionally Glen felt that Goff was very capable, and he was also satisfied with the supervision of his assistant, Bart Prince. The Harders said they 'would definitely approach Mr Goff for another home — or any other building'. They also have a personal feeling for him — 'learning to know Bruce Goff and appreciate him as a person . . . was worth the whole experience'. For them the house is calm and peaceful and they enjoy the curved line which Goff used as a theme-form throughout the house. The house also embodies romantic ornithological overtones, especially in its siting. For Glen and Luetta this:

home gives us much satisfaction . . . it functions well . . . meets our life style and is aesthetically pleasing. Living here is an exciting experience . . . it causes us to live each day on a little 'high'.



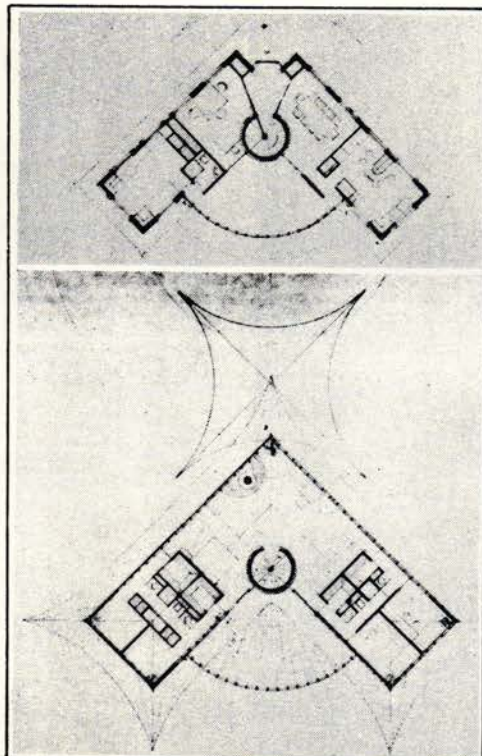
Harder House/Minnesota/1970



Key:

- | | |
|----------------|--------------------|
| 1: garden | 11: terrace |
| 2: entrance | 12: swimming pool |
| 3: entry hall | 13: living |
| 4: passage | 14: dining |
| 5: utility | 15: kitchen |
| 6: office | 16: family room |
| 7: sewing | 17: balcony |
| 8: kitchen | 18: screened porch |
| 9: playroom | 19: girl's room |
| 10: boy's room | 20: parents' room |

Plunkett House / Texas / 1970



Hyde House/Kansas/1965

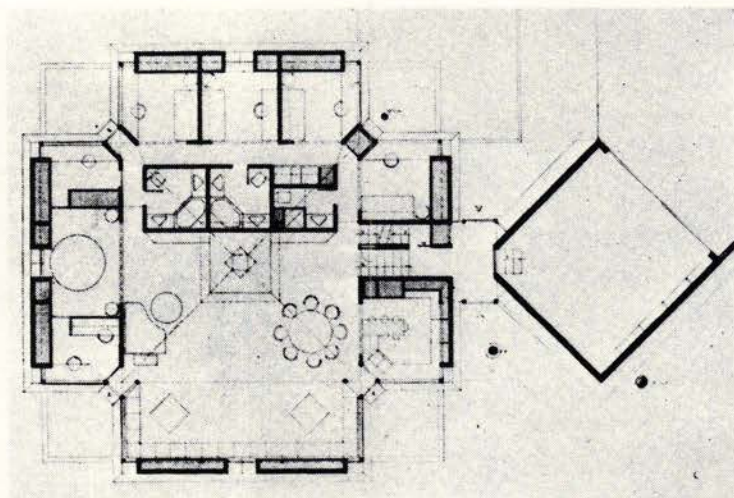
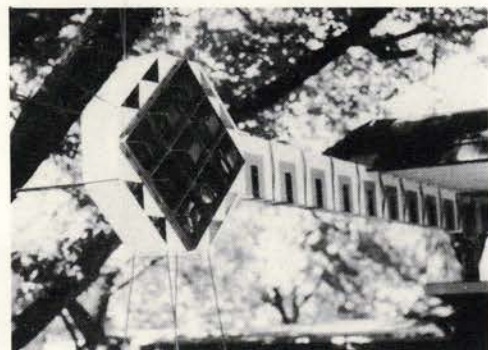
Fred and Elaine Hyde
Kansas City, Kansas (1965)

Fred, an eye surgeon and teacher at the University of Kansas who has developed new techniques and instruments, and his wife Elaine were both in their mid 30s when they found Bruce Goff through an article in *Life* magazine and heard a lecture by a colleague's son (Kurt Youngstrom). When they became a family of six Elaine suggested they build a house and Fred replied 'maybe we could get Mr Goff to design one, as I don't wish to have just any house' – thinking to himself that with Goff in Oklahoma, he was safe. Shortly after Goff's move to Kansas City was announced in the local press. Elaine said 'OK, he's here . . . let's get going' – and they did. After several discussions with Goff they purchased a site owned by another architect. The Hydes also recalled what a good listener Goff was. They expressed to Goff their desire for an open plan with views of the surrounding sky and

nature. Elaine stated that her favourite colour was blue-green, and Fred asked that, as his work all day was with round objects (eyes), perhaps the house should not be round. It is interesting to note however, the suggestion of the magic eye in the design – the window opposite the fireplace. The house as built was only slightly modified (reduced in height) and only slightly over the budget. Problems occurred with the inverted roof which did not hold water well, but this was put down to an inexperienced roofer. Apart from discovering the disadvantages of the open plan during their children's teenage years, the Hydes are very pleased with their home and have no desire for another. As flying enthusiasts they are particularly happy with the sky views and pleased also that the interior light has encouraged a fine array of indoor plants. Fred remembers well:

the magic moment when Mr Goff unveiled the design . . . the exhilaration and satisfaction that

my dream house was created . . . the fear that Mr Goff had neglected Elaine . . . the relief and amazement when I realised that he had somehow beautifully amalgamated both our desires.



Joe Price House/Oklahoma/1956-

Joe Price, with Etsuko
Bartlesville, Oklahoma (1952, and thereafter)

If the Bavinger House could be considered as Romeo, the beauty and sheer sensuality of the Price House would be Goff's Juliet. Joe Price studied engineering at OU where he also developed his passion for photography and art. The fact that he found Bruce Goff there is, looking back, quite predictable, for Joe helped find Frank Lloyd Wright for his father's new office block in Bartlesville. The saga of his home on the family farm outside Bartlesville is extensive. The first phase (1956) was designed for Joe the bachelor, phase two (1966) was for Mr and Mrs Price, and phase three (1976) was for the Price family. The first phase was built after the second design – a casualty of circumstance (see essay in this issue by D G DeLong). The design changes – they seem continual – emphasise the growth of both client and architect. Discussions between the artist and his patron must now number

in the hundreds. As a photographer Price has produced a film, 'The Artistry of Bruce Goff' which won an art award at the Cannes Film Festival in 1963. Price, an art buff, has one of the finest collections of Japanese art in America. That the two men have a happy and beneficial relationship is self-evident. Joe believes simply that Goff's clients are 'people who just want more out of a house and want more of themselves in that house'. Concerning his own house and his architect:

We have a wonderful relationship as we don't overlap too much. I can not answer where my demands stop and Bruce Goff's genius begins.

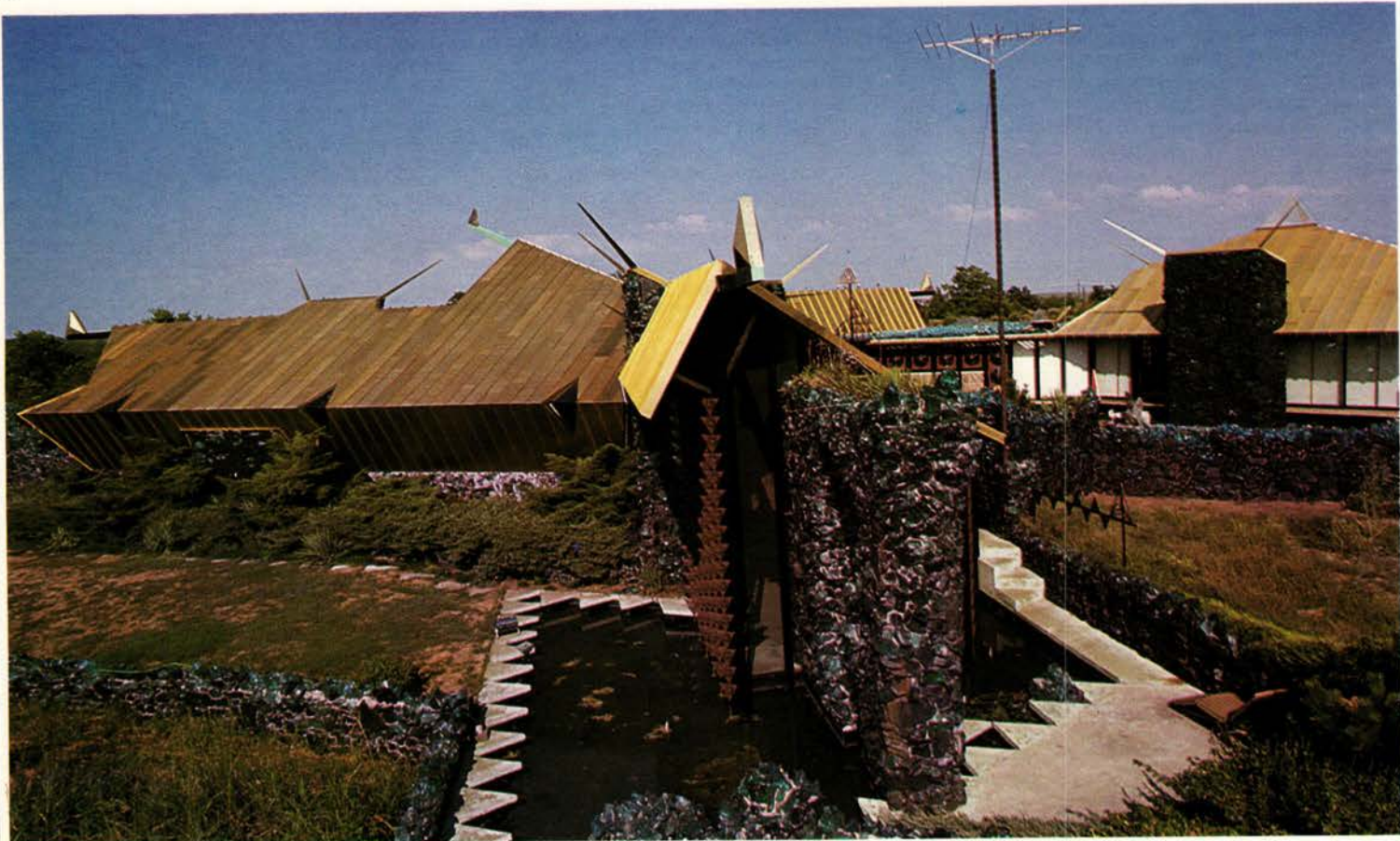
The constant theme Joe repeats is Goff's response to his philosophy of living: 'a starting point was my philosophy of living'.² But Joe is also clear on how he works with Goff:

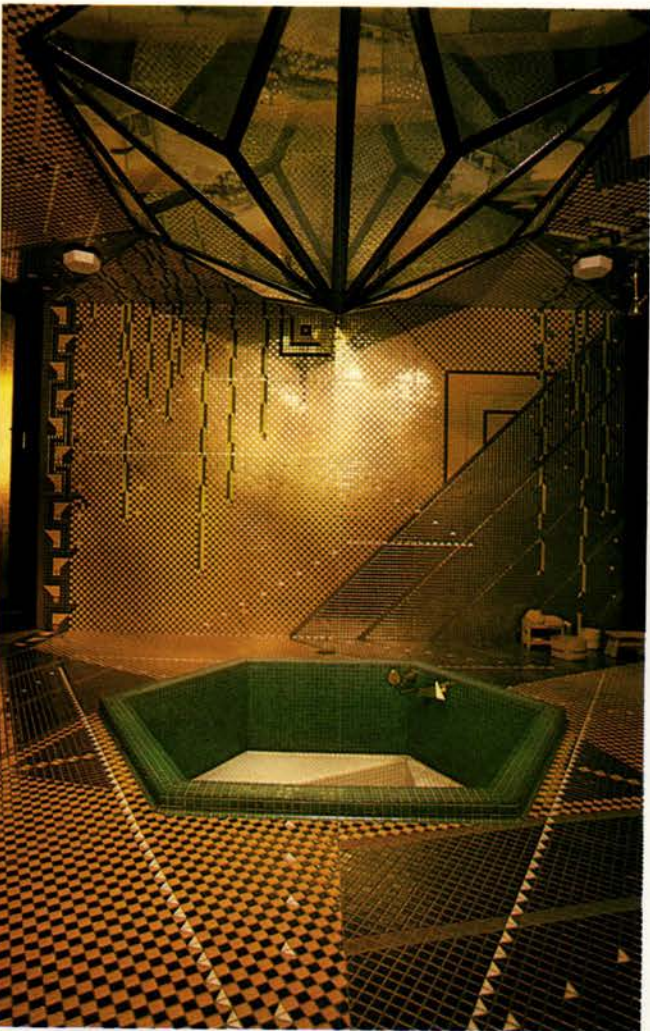
never did I tell Mr Goff how to give this [my house] to me . . . he gets to know his client and does what the client would do if he [the client] were a great architect.

² See article by J D Price, 'Bruce Goff in Architecture', *Kenchiku Planning Center*, 1970, p210.

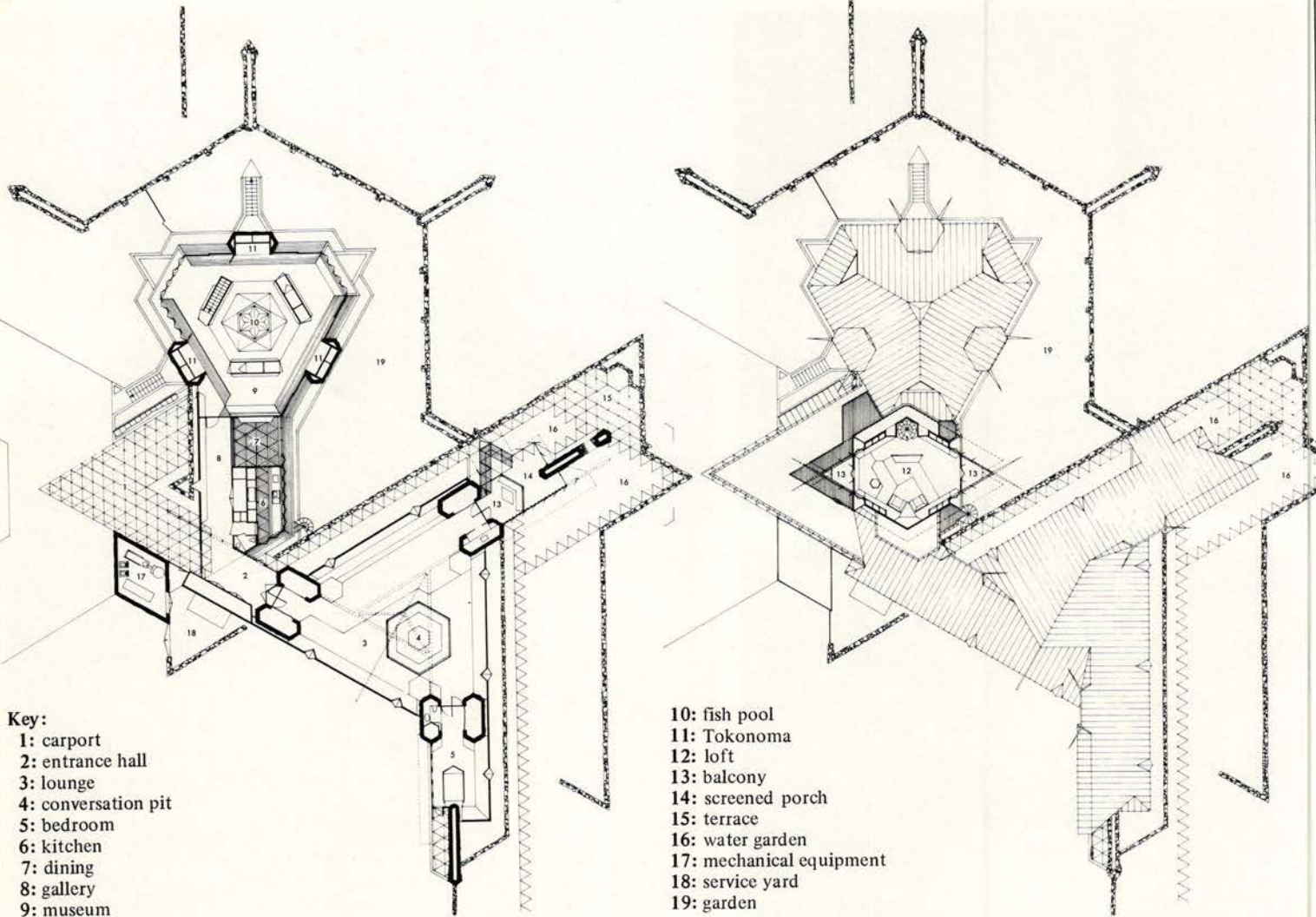


Joe Price House / Oklahoma / 1956-





Joe Price House/Oklahoma/1956-



Joe Price House, Starview Farm, Bartlesville, Oklahoma (1956)

The Joe Price House is a continuing development extending through three building stages, and changing to accommodate the life style of the occupants.

Originally the house was designed as a home for a bachelor. The architect was given a choice of site on a sloping property which overlooked a lake and which formed part of Starview Farm, owned by the Price Family, already containing Joe Price's parents' home and, later, one for his brother designed by Frank Lloyd Wright. The privacy of the location allowed greater latitude in the choice of scale, materials, and colour, by not having the usual problem of relating with existing nearby structures. Although the owner was well aware of the natural beauties of the site, he did not want great expanses of glass from which to view it inside the house. He said: 'when I want to see the outdoors I will go outside where I can really see it. I prefer to have a cozy more intimate feeling in the interior, with glass used mostly to admit light.'

Being a bachelor who, at times, entertained extensively, he needed a large interior space, but he did not want it full of empty furniture when he was there alone or with small groups. Also he desired a more casual and relaxed atmosphere. He liked the idea of sitting on the floor, and it seemed desirable to have some of the exterior walls lean outwards to recline against. A conversation pit surrounds a mosaic-topped bar, which automatically sinks into or rises from the floor. This cabinet also houses the record player. The entire floor area, with the exception of a small area covered with vinyl for dancing, is covered with a 2 inch foam pad and thick, shaggy white carpet which also extends up the reclining walls and out onto the ceiling at places. The only furniture, besides built-in cabinets and seating, is the glass and aluminum dining table and some upholstered aluminum stools. Thus the house is also furniture, and the big room can seat 75 people comfortably. The three cantilevered structural beams tie together overhead to support the roof, which is also the ceiling. It rises up to allow a large window admitting north light, and the ceiling above the conversation pit is covered with white goosefeathers. The architect wished to recall the white of the floor in this area and considered white paint, which would have been too thin in scale. He also thought of using some of the white carpet there, but it would have seemed too heavy in scale. What was needed was something white, light and soft-texture, hence goosefeathers!

Other requirements, besides the large central space, consisted of a carport with entrance closets and storage; a bedroom with bath and dressing facilities; and a small kitchen with storage and accessibility to the big room and to a screened porch. These three basic sets of elements suggested triangulation. Therefore the architect established a triangular 3ft x 3ft x 3ft module which was not only used for the floor plane, but also for the vertical section and roof. The big central space became triangular with three extensions, or wings, for the carport, bedroom and screened porch. The triangular theme also developed into hexagonal forms and ornamental devices such as the cast aluminum grilles used for furniture and trellises, the three decorative glass doors connecting the central space with the wings, the mosaic bar top, etc. The kitchen, bath and storage units are of black, hard, coal masonry laid up with glass cullets. This same masonry shows inside and is also used

for planters, terrace walls, and foundations. The sloping walls and roofs are covered outside with standing-seam gold-anodised aluminum, and structural wood posts and beams are painted black. Window sash and pivoted doors are of mahogany. The small triangular windows, in the central space, fold over the roof to form skylights, and the bedroom casement sash has leaded purple and amethyst tints of glass. Wood cabinet work is of African Zebra wood. Lighting is indirect and exterior lighting is provided behind some of the glass cullet, underwater, and terminates the extensions of the three major structural beams at each of the three wings.

The slope of the land afforded some basement space below part of the central room and is used for guests and exhibition space. It opens onto the screened porch with another pivoted door designed and executed by the architect. The screened porch is surrounded with a water garden, supplied by a waterfall near the gilded-bronze phoenix bird, and also by a barbecue terrace. A beautiful Japanese pine is at home in the 'prow' of this terrace. The spike-like terminals above the exterior masonry elements protect the house from electrical storms and help to integrate it with the sky by taking it into the profile of the building. This was a complete house for its occupant and provided storage and exhibition spaces for his beautiful photographs which, at that time, was with travelling, his principal hobby. After living in it several years he said 'the house has made a better person of me'. When we started the work he said 'if you ever have to choose between utility and beauty, take beauty'.

The owner's first visit to Japan in search of Japanese art also led to his meeting with Etsuko. Their marriage required more house, as did his growing collection of Japanese art.

The addition consists of changing the original carport into an entrance hall which connects with the new two-carport, the large original central room, the new garden and a gallery containing art-book storage and connecting with the kitchen, dining room, and the museum, through a secret door.

The museum space became hexagonal and is separated by three free-standing units for storing Japanese folding screens. These units are grouped around the hexagonal pool above which is a central skylight supplying light downward through the glass-bottomed pool to the Japanese-style bath below. These wood storage units serve as backgrounds for the display and study of the free-standing folding screens. Thus it is possible to see pairs of screens at the same time. There are three large *tokonomas* in the outer walls which are lined with raw silk. Outside their coal and glass masonry with sky-points relates with such forms in the original house. Built-in seats under the windows are used for closer study of small paintings and screens. Sliding glass doors open onto verandahs with views of the walled garden outside. The exterior light from this glass is softened by sliding paper *shoji* designed by the architect and made in Japan. The garden is of Japanese inspiration with fish pool, islands, stone bridges and lantern. Glass cullet spillways supply the pool with water. A small circular stairway rises to the roof deck above the kitchen and dining space and affords an excellent view of the garden and the landscape beyond. The dining room and kitchen have teak-wood floors in the triangular module pattern. The kitchen is completely equipped and has hexagonal windows composed of bevelled glass triangles overlooking the garden. The dining table

is also hexagonal with teak top and sunken floor below so that westerners may sit on the floor more comfortably while dining. A melon-coloured carpet is used in the museum for floor and upholstery covering.

One of the free-standing wood cabinets contains a stairway down to the basement below, to a bath, and Japanese bath in the centre below the pool in the museum. This is surrounded with dressing spaces, two work rooms for Mrs Price and a utility space, also reached from outside. The floor, tub, walls and ceiling of the Japanese bath are covered with a continuous design of ceramic tile mosaic, designed by the architect.

The ceiling, which is the underside of the roof, of the museum is covered with refrigerator cork for insulation and acoustic treatment. The strips of cork have bands of goldleaf glass tiles between.

A second addition to the house is now in construction and becomes the *third stage* of its development. It consists of a stairway leading upward between the existing gallery and kitchen to two rooms and bath for children. This new floor is above the present gallery, kitchen and dining room. From there a spiral stairway, in a glass enclosure, ascends to a large loft under the roof with two cantilevered outdoor balconies. This loft will be an elegant retreat for Joe, with built-in onyx desk and cabinets, prismatic mirrored ceiling and equipment for music tapes and records, TV, videotape, slide and movie projection and bar and study facilities.

The steel structure straddles the house below and will unify the design and climax all parts of the existing house. It also makes use of the triangular module, and cork bark walls will also be used, as in the first addition. Stamped aluminum strips will continue as decorative accents and the standing-seam gold anodised-aluminum roof will top the loft. Lightning spikes will terminate the ends of the ridge and be the high points of the silhouette. The architect is designing and executing glass decorative panels between the two sheets of thermopane glass for the circular stair and loft glazing. There are no plans at this time for further additions, but if the occupants later find them necessary they can be made.

Bruce Goff (*Global Architecture: GA33*)

Bruce Goff: Bavinger House and Price House GA: 33 (Global Architecture)
Edited and photographed by Y Futagawa and associated photographers; A D A Edita Tokyo Co, 1976; 50pp, pbk, b&w and colour illus, £7.50.

Credit Due

Many of the notes published in this review of Bruce Goff's buildings have been taken from David De Long's excellent book, *The Architecture of Bruce Goff: Buildings and Projects 1916-1974*. This book, which appears in two volumes, was submitted as part of his doctoral dissertation at Columbia University. It catalogues all Goff's known designs, with (in the second volume) thumb-nail-sized illustrations of many of Goff's original drawings. The text is essentially descriptive, rather than interpretative (apart from his categorisation of Goff's use of geometry, which is outlined in De Long's essay elsewhere in this issue), and contains extensive research notes relating to influences on Goff's work, as well as many anecdotes edited from his extensive interviews with Goff, his clients, and his associates. Only the absence of an index and the minute size of the illustrations mar the great value of this book.

The Architecture of Bruce Goff
David De Long; Garland Publishing, New York and London, 1977; two vols, hdbk, 800pp (approx), b&w illus, £86.00.

Joe Price:

A CLIENT'S VIEW OF BRUCE GOFF

Bruce Goff is probably the greatest creative individual that the United States has ever produced. This provocative statement may be better explained by describing the process which produced my own house; by showing the way Mr Goff took my individual desires – what he calls ‘problems’ – and expanded them into a solution.

I don't believe Bruce Goff has any concept which describes a ‘wall’, or distinguishes a ‘floor’ or a ‘ceiling’. He seemed to begin my home as if never before had a house even been constructed; he was proceeding with the first structure ever built – but, it must be admitted, with some great advantages over his prehistoric predecessors. He had material of nature and modern science at his call, he had transportation to bring him this material, and he had tools to use, and skilled labour at his disposal. These were his heritage, and with these he began. It was to be a bachelor house, not just a small carbon copy of a family house – alike in everything but purpose – but a home for a person living alone; a place which would become an escape from business, from the pressures of society, and from prying eyes of gossips; a world emphasising ultimate comfort both mentally and physically, a place where I and any of my friends who so desired could be free, to come a little bit closer to being a human. Away from the stifling blanket of false morality – to achieve a surrounding which catalysed creative effort by freeing the mind to roam at will without the barriers of preconceived notions, customs, and habits.

Ideas, concepts, desires, and feelings were patiently and painstakingly evolved, sometimes by trial and error, but usually just by extending them into the whole concept, until they finally combined to produce the complete unit. Everything had its separate purpose and function, but all and each of them were an integral part of the whole.

For example, to enable guests to relax, to prevent any feeling of formality, I wanted everyone to sit on the floor, because even strangers would then appear as friends, and freedom from conformity would automatically commence. This was almost unheard of at that time. But there are serious problems with Americans sitting on the floor. For one, it gets hard, so it was softened with four inches of carpet and foam pad. Without support, the back gets tired, so the walls were sloped, running the soft carpet up them and even continuing it onto the ceiling, where it in turn softened the indirect light, making the source almost invisible. The question then was, how could people converse when lined up reclining on a wall? A hexagonal pit

was sunk in the centre of the room for conversations, with the carpet flowing throughout, surrounding a medallion in the centre of the pit; this medallion in turn could then be made to rise from the floor and contain a bar and stereo system – and, since music had to be a basic principle of this house, give the main room a triangular shape so that by placing the speakers in one corner the house itself would take the form of a speaker horn, the deep rug along the walls acting as a baffle. By insisting that people leave their shoes at the door, no dirt is carried in, which meant the rug could be snow white and envelop each person as a cloud. As is here apparent, one simple thought can and did evolve into many different aspects, some directly connected, others indirectly, but all because of the simple directive that people should sit relaxed upon the floor.

Though the house evolved in unique form, nothing, absolutely nothing, was done just for the sake of being different.

To describe more exactly this lack of ‘difference for the sake of difference’, I shall analyse one specific problem. The main natural light source for the living area is a huge skylight between the three joining horizontal beams. Only one side of the pyramid is glass; the other two sides needed a surface which would reflect the light, yet be soft enough to diffuse any harsh rays. The white carpet could be used, but it would appear overly heavy; something light and airy was needed. Mr Goff's solution was white goose feathers, their sheen reflecting the light and their texture diffusing it, so that not a single shadow is cast from this source. The problem came before the material, the solution before the effect.

So well did Mr Goff master the use of light that the house is entirely different night and day. In fact, when a person is visiting the house for the first time and it is night, I can ask him to count all the exposed windows he can find in the room; the most anyone has ever discovered is nine, usually six. If this same person had been asked this question during the daytime, immediately he could count all nineteen.

Mr Goff created for me a place to return to after a day at the office where on walking through its doors, all remnants of conformity, the problems of the day, and the expectations of society could be left outside. This also somewhat explains a statement Mr Goff has often made to me: ‘I have never designed a house I personally would want to live in’. For, you see, he always becomes his client – there is nothing of Bruce Goff in his buildings

except his effort.

Time changed my status and needs. I met, while in Japan, a girl who later became my wife. The house then needed a kitchen and dining room for more formal family living, a library, and a museum for my ever-growing collection of Japanese art. It was my opinion that we would have to build an entirely new house since it was virtually impossible to combine the needed elegance and formality of these wishes with the old ‘free spirit’ house. But again I had underestimated Mr Goff's ability, glassed in the old carport, making it the entrance way. The low gallery ran south and gently bridged the new museum from the old living quarters. So fantastically did Mr Goff join the two structures of completely opposite feelings, and even though they were constructed ten years apart, no one yet has been able to find the ‘joint’.

The museum is a sealed room of constant humidity and temperature. The major problem in displaying Japanese art is that each painting was produced to be the only item of decoration in a room. It was displayed in an alcove (*tokonoma*) and usually changed every day. Most museums have ignored this inherent problem and just lined them up on a wall to compete with each other as they were never intended to be, Mr Goff reached back and treated the paintings themselves as if they were his client. He took them away from the outside walls, placing them in isolated groups in the interior of the room, therefore allowing the walls to be covered by rice paper to emit the same soft light that they had been painted under. By this arrangement, Mr Goff was able to make room for seven large six-panel screens and three sets of *tokonomas*, each individually displayed and viewable from either up close or from a distance. The design has amazed all Japanese who have seen it, for he has solved a problem that has had them mystified ever since Japanese art has been removed from private homes and private display. This museum is a scholars' museum, and since the art must be constantly changed, the paintings are stored no further than a foot from where shown.

Humidity is a constant problem with oriental paintings, and several backup systems were instigated in this design, the final one being the open pond in the centre of the room. If for any reason all mechanical systems were to stop, this water would hold the humidity above the minimum tolerance. In Bruce Goff's architecture, there is always a multiplicity of reasons for any decision – in this case the pond also forms the ceiling of a

Japanese bath, permitting the art itself to be viewed while relaxing in the hot water below.

The museum is a complicated use of space, so much so that it is impossible to photograph. Every plane was designed to be different so that the eye can only focus on one painting at a time. It is therefore unintelligible when reproduced as a photograph on a single flat sheet of paper.

For many years my wife and I were able to live amongst our paintings – the museum was also our bedroom, which was designed for a Japanese *futon* which folded away during the day. However, when we decided it was time to raise a family, our house reached its third phase – for it was improbable to try to make compatible 16th and 17th century paper paintings and grubby inquisitive little hands.

Bruce's solution was to bridge the old house above the kitchen and build a 'tower' on the bridge. The first floor was to be the new sleeping quarters, and the top level was to become a work space with absolute privacy – replacing the old original room of my bachelor days and which now, with children, had become the family room.

Though small, this loft was given over to a visual quest to make it as beautiful to all senses as was possible. Mental peace was the prerequisite and took priority over physical comfort. Mr Goff personally built each window, taking two years to make them. These were constructed with various colourful materials on the interior of thermopane (sealed unit double glazing) and were later sealed in the factory and installed in the loft.

Over the 23 years that my house has been under construction through these three phases, I have never had any trouble with 'my architect'. If there were problems in the design I didn't like he would immediately change them. As you can see in the final design, when changes were dictated by circumstances, the house was adaptable and the architect was excited by the new challenge. The house as it exists now is far greater in its whole than in any of its earlier stages; it is hard to conceive it ever having been any other way. This is architecture, and that takes an architect.



Herb Greene:

RECOLLECTIONS OF BRUCE GOFF AS TEACHER

It has been 25 years now since Jim Gresham, Bob Faust, John Hurtig, I, and many others were students of Goff. We have gone our separate ways and only occasionally cross paths. Looking back, I now see the characteristics that made Mr Goff (although many did, we have never called him Bruce) both an inspiring and at the same time a limited teacher who gave the school a new direction. It was a uniquely prairie Americanism, a synthesis of south-west Indian, oriental, and avant-garde modernism, which combined only tangentially with European mainstream traditions, that were — and are — so strong in the Ivy League East Coast schools.

The School Building at Oklahoma: Creating an Environment

The School of Architecture at the University of Oklahoma was housed in a 'temporary' two-storey frame building left over from the wartime Naval Air Training Station at Norman. No building could have been less auspicious as a background for studying architecture. But Goff transformed the ground floor corridor into a space of black and dark green stains on plywood panels, heightened by white string patterns and myriads of white pasted-on circular reinforcements for notebook paper. This interior related a little to the space of Matta's 'le vertige d'Eros', a seminal painting of that decade. The space seemed much deeper than it actually was and made a potent statement that imaginative, inexpensive design could transform the most obdurate environment.

This hallway and Goff's small office at the end of it remained an oasis in what otherwise was a low ceilinged and depressing building. Many universities in the late 40s were recovering from wartime conditions. Enrolments had swelled. After lunch and during breaks students would gather in the hall for talk and stories, with Goff often in the thick of it. With all the returning veterans, including Goff, war stories dominated. To myself, one year out of high school, it was a memorable experience.

Anecdotes

Goff's principal method in lecturing and his conversational mainstay was the anecdote. He liked to be amused by humorous stories and thoroughly enjoyed amusing others. Since Goff had chosen to avoid formal architectural education, he occasionally voiced regret at not having developed writing skills and missing out on the formal study of history. Perhaps his use of humour developed in part to compensate for his perception of deficiencies.

Anyway, he would tell stories to illustrate a point, and one story would lead to another. This, of course, made Goff accessible to students, clients, administrators, and most everyone who came into his sphere. On the other hand, he could get going at lunch or any other time and lapse into trifles. Going to lunch with Goff was often a love-hate dialectic for the students interested in the staff of architecture. We might get wisdom during the entree, but dessert could be an hour of verbal banana pie.

Like all serious humourists, Goff knew he could criticise in a comic vein and make an impression on an audience that would be hostile or impervious to the same ideas presented with rhetorical seriousness. He was reluctant to give up on a story. As a fringe member of his circle, I heard the same stories many times and watched him enjoying himself at each telling.

Teaching Methods of Bruce Goff: Books

Goff was an avid collector of books on art and architecture and of recordings of music. His collection emphasised ancient, native, oriental, and modern works. A notable exception was the Renaissance. He said he knew the art of Renaissance masters was good but that he didn't respond to it. He thought much of Bach was 'musical wallpaper', but was good humoured when challenged on this point by Wright and Mendelsohn. I think he had the bias of many early modernist movers: that architecture of the Renaissance was basically eclectic and had lost touch with principles. I also saw no sign that he related personally to the romantic notions of destiny and Nietzschean striving that are found in Beethoven and Wagner, and to an extent in Wright and Mendelsohn. Goff is a creature more absorbed with finding the stimulation he needs than a philosopher reflecting on the causes of history.

Later when he lived in the Price Tower, his kitchen cabinets were full of phonograph records. Even at the university he ate most of his meals out, using meal times to relax and gossip with students and helpers or to scout the dime stores for items such as plastic doiley placemats that he would use as stencils and templates in building up textures and patterns in his paintings. His office at the school was lined with books from his personal collections. His home, during his tenure as chairman, was a shop which he liked for its outsized space and high ceilings and also contained a vast number of books.

Analysis of Clichés

Among Goff's most disarming and successful lecture techniques was his witty dissection of architectural clichés, poses, and formal issues. In my student days, the 'A-frame' and the 'blank end wall' and the 'ranchburger' suburban house were targets. Lately he accuses architects of 'modelitis', a disease that leads them to believe their finished buildings will look like the crisp $\frac{1}{8}$ inch-scale chipboard models that exaggerate formal interest and reduce texture to point zero. Even his personal pantheon was not inviolable. When Taliesinians would visit Goff's office in the Price Tower they would head directly for the corner of the room, and backs to the wall, would crane their necks to view the cramped nine-foot triangle that Wright had left open through the floor. Full of Zevi and indoctrination they usually exclaimed with expected reverence, 'Ah, space!' Goff, padding to their side would look up and retort, 'Where is it?'

Free Association

Goff seemed to concentrate on visual values to get to new meaning. Like Gertrude Stein and the phenomenologists, he responded to appearances without recourse to a laborious examination of historical causes. The ideas of free association and plumbing one's pre-conscious experience were appealing to him and should definitely be considered in an evaluation of his methods. His paintings were often exercises in free association and were related to his later architecture, such as the 'lily pad' house of 1946.

Pep Talks to Students

A remarkable facet of Goff's personality and teaching method was his willingness to give his personal time. He would often take an hour to discuss a student's school or home problems. Doubtless he became a father figure for some students. He often said this counselling was extra-architectural, but he believed a student could not perform well if he was undergoing stress. He was principally a good listener to whom the student could unload his troubles. Goff caught the first bus at 6.45 am to school, arrived at seven and remained until 11 or 11.30 pm. The school and his work were his life, with time out for a few movies in between.

Celebration of Student Work

Goff seemed to delight in good student work. He personally arranged frequently changed displays in school corridors. There were places of honour for

works to be singled out, but all student work was exhibited. He knew that students identified with their peers and would naturally learn from each other and compete to improve their drawings and designs. He also knew that if weak students did not expect to have their work shown in public they would be less likely to perform to their utmost. A student's work was carefully stored during the five years of the programme. Goff was fond of 'one-man' exhibits that showed an inconspicuous production in the first three years blossoming into the realisation of an incipient talent. On the other hand, the system of faculty juries died out under Goff. He seemed to feel the most meaningful criticism could only come from oneself or from peers who had 'earned' the right through their own work. He often quoted Stravinsky: 'No one ever built a monument to a critic'. Possibly he reflected too much the artist's view as expressed by Gertrude Stein: 'What an artist needs is praise. If he needs criticism he is not an artist'. Of course, conventional wisdom challenges the view that all students are artists, and there is no doubt that lack of experience in presenting and defending one's views and a hearing of alternative views can be obstacles to development. After a few years, students, faculty, and Goff conducted occasional voluntary juries to provide these opportunities.

Design Curriculum

Basic design was a course in which the student learned to see all visual objects, shapes, and colours in terms of compositional values. Visual phenomena were reduced to points, lines, planes, and colours. Compositions were developed in two dimensions to show how feeling and ideas could be produced and controlled by utilising these elements. The influence of Goff's own painting was apparent. Goff had taught design in the 30s at the Chicago Institute of Design. He knew well the work of Moholy-Nagy and the Bauhaus, and these influences could be recognised, as well as those of the Suprematists and of Japanese prints.

The second semester included courses in technical problems of drawing and representation and a three-dimensional development of the ideas presented during the first semester. Craftsmanship and expression of the material was emphasised. One problem was to make a sculptural design of wood, wire, and plastic, and to draw an accurate orthographic projection and render a perspective of the construction.

Building construction was introduced by designing a small house or cabin, making a framing model

of it, and producing working drawings of the building. This course was followed by two more that dealt with translating student designs into construction drawings.

Second and third year design problems were usually building types of gradually increasing complexity. The instructors were free to devise their own problems within the syllabus, with Goff sometimes advising. He taught a design class in the first and fifth year ('get 'em coming and going') until he initiated a fourth year studio with the aim of recycling the principles introduced in the first year now that the student had experienced a couple of years of building design. This course featured consecutive week-long problems after a lecture by Goff on topics with names such as orchestration, rhythm, transparency, incident, terminal, and climax – all issues of pure design and with often visible relation to the terminology of music. Some of these lectures found Goff at his best as a professor, and he would add topics in different semesters. Site relationships in an urban setting might be one, but was approached at that time entirely from a visual and graphic point of view. There was no emphasis on urban issues in the design curriculum. This seems an outgrowth of a small town environment and a disposition of prairie architecture. However, Scully and others have pointed out that design strategies in the late 40s and through the 50s at Harvard and other leading schools was essentially anti-urban. While Goff never got into the social or structural requisites of urban design, his careful attention to formal problems of buildings having to relate to different settings should have given his students an advantage over those who were trained to plug in the current 'international' style, no matter where the building was located.

In the fifth year the student was exposed to a design programme dealing with large and complex buildings, but the last term was given to four short problems. Emphasis was on formulating *partis* for a diverse set of problems, and giving the student more design opportunities before he began the long road to apprenticeship, licensing, and future practice.

When Goff had taken over as chairman in 1948 he had to build a faculty. To fill a gap he taught history, ancient and modern. I had his course in ancient, which I thought was routine. To be sure he included Pre-Columbian and Japanese architecture, topics rarely touched in other schools. What I was most impressed with was that he read books to prepare and corrected our term papers on top of all

his other work. Elizabeth Mock Kaessler, author of *The Architecture of Bridges*, with an experience of Taliesin, accepted a job teaching history and did much better turning the students on to Gideon and the Baroque.

The other impressive credentials on the faculty belonged to Mendel Glickman, an engineer from Milwaukee who had worked with Wright for over ten years. The Bear Run House and Johnson Wax Building were to his credit. Glickman offered a wealth of experience and many stories about Wright. He was ambidextrous, chalking up calculations seemingly all around the class-room with either hand. What he lacked in professional experience he made up for with stamina. His three and four hour-long lectures left minds and behinds in a state of petrification. Those who were up to it made voluminous notes and got a good deal out of his courses. Goff was insistent on a sound structural basis for the student. Glickman was the highest paid member of the staff.

I was of a mind with many of my classmates that some of the remaining faculty were second rate. At the miniscule salaries offered by the university, Goff had a problem in recruiting. The interesting thing was his support of those individuals he had hired. He piped their every accomplishment as legend-making, as if to convince the students that the school was a powerhouse of distinguished faculty.

Visitors to the School

Goff's 'takeover' at Oklahoma occurred in the late 40s. There was an air of expectancy and seeking new directions in schools of architecture. They had not yet settled into the Miesian mode of the 50s. Distinguished visitors tended to be excited by the philosophy of the school and the student work. Eero Saarinen, Eric Mendelsohn voiced their interest and support, and even Frank Lloyd Wright had a few kind words.

School Setting

I believe that Goff was nourished by a school setting. He responded to the young people around him, enjoyed showing the school to visitors and pushed himself to stay one-up on his students and colleagues. Much as he chafed at the bureaucratic regulations in a university and talked of setting up his own private school, I think he enjoyed the stability of the university and the platform it gave him. The school had grown to 400 students. I thought he handled the diverse attitudes of students and faculty with remarkable fairness (students

were not coerced to follow Goff), but inevitably his work and theories got tangled in factionalism among students and staff. The 50s was a decade of conservatism, marked by rank McCarthyism, loyalty oaths, crew cuts, and grey flannel suits. Goff wore bright turtlenecks and lapelless jackets long before they were popular in the 60s. His entourage of students at lunch and on the bus (sometimes aping his taste in clothes), his residence in a shop, with black oilcloth across the large display windows for privacy, could seem subversive to a small Mid-West town. By the time he left the university in 1955, his work and position had become inevitably involved in local issues. Asked to design a housing development he attracted disfavour for disapproving plans of some developers. Provoked by an incident outside the school that had been dishonestly perpetrated against him, he resigned, much to the dismay of many of the students and of Dr George Gross, the President of the University who had hired him as chairman nine years earlier.

In 1975 I attended a reunion for Goff organised at short notice at the University in Norman. Two hundred of his former students attended, some from as far away as Hawaii and Japan. The demonstration of respect and affection for Goff was moving, and recognition of the remarkable environment he had created for studying architecture at a state university was unmistakable.

Pragmatism and Response to Clients

Working over drawings in Goff's office, I could not help but overhear his occasional conversations with clients. These were almost invariably concerned with pragmatics of programme and circulation. Goff gave the impression that his circular or suspended plans were arranged as a result of careful attention to the client's functional needs. As a teacher he stressed a functional approach to planning. While he could admire Mies and praise his sense of proportion, he pointed out the lack of acoustic privacy and sun control in Crown Hall. He also thought relegating toilets and other necessary serving spaces to the basement of Crown was an easy way out. Goff's students knew they must account for such obvious practical requirements. They also knew he encouraged fresh ideas, particularly in school solutions.

He never confused student design with buildings that were actually going to be built. If the student had presented speculation that emphasised structure, materials, or form, this was recognised, but usually with a gentle but persistent admonishment about problems in planning that were overlooked. The practical bent of Goff's planning and its role in generating some of his designs do not seem to be widely appreciated. Probably his early training with Rush, Endacott and Rush helped him here. However Goff's mature work emphasises different themes at different times. In projects like the first Garvey house, planning hardly seems the starting point. The concept is one of space, material, and form addressed to the avant-garde sensibility of a client musician who requested a work that would investigate new aesthetic territory. It was as if the client had asked Schoenberg or Varese to compose a new musical form. Yet Goff has contributed practical and original ideas to planning the American house. Separate living rooms for teenagers, expressions of the house as a place to work or conduct special activities, and revolving closet interiors are samples of his inventions. It is the range of his work that produces inconsistencies, which cause his casual critics to miss the often ingenious practical solutions to his plans.

Goff also reflected well the Jamesian position of recognising concrete facts of a particular programmatic situation as being more real than universal propositions. The recognition of contingency in the work of Goff represents an acceptance of chance and indeterminacy that is only currently becoming a topic for consideration in architectural design. He was disposed to accommodate special features that were stipulated by his clients. Most architects say they do this but their work does not change much from one job to another. On the subject of colour and material alone, Goff will do a white brick house for a client who does not like colour, a beige house for a client who likes beige. For Mrs Ford of the famous domed house at Aurora in Illinois, Goff painted the exposed quonset ribs chinese red, the favourite colour of the client. But to isolate these features is to trivialise Goff's knack for integrating such characteristics into architecture that honours relationship to a site, the expression of structure, plan, historical archetypes, or to suggest a new aesthetic sensibility, as does the exuberant 'spray' of structure in the Ford House which looks like a visualised chord from the electronic music of Edgar Varese. Examples of Goff's work and his explanations of his approach were, of course, the strongest component of his repertoire of teaching tools.

Goff and Technology

Goff stressed the need for the architect to master developments in building technology and to utilise them in his designs. He was himself adventurous if not gullible in utilising new materials on the strength of manufacturers' public relations releases, and has had to replace roofs for a couple of houses where he employed a translucent plastic product to make a house into a lantern. As an artist, his sensibility for combining new, old, or unlikely materials is probably unmatched among architects. Yet I find some of his speculations on the future – push-buttons for milk and tea, dry ice mist, retracting ceilings, and floating rooms – to be pre-Archigram energy-consuming fantasy. However it is too bad that architecture by laser, computer, holograph, and synthesiser is not quite here, because Goff more than any architect would look forward to using such techniques.

Architectural Idealism and Individuality

Goff represented a blending of belief that architecture concerns principles beyond containment by any individual, and yet at the same time every individual has a right and obligation to seek self expression. The latter point has provided a source of contention for academe and mainstream society, which tend to recognise 'stars' while institutionalising conformity for the average individual. Goff's view emphasised that differing environmental experience and personal abilities of human beings should naturally produce varied expression. He disclaimed styles and was suspect of 'little Wrights and Mies's' and saw architecture in terms of continuing advance. He chided architects who coveted 'trademark' design. He said Ed Stone, the perpetrator of grilles, was stuck in the 'stone age'. Prepping for a visit by Wright in 1951, Goff carefully arranged some of the radical student work showing new directions – pre-Archigram pods, tension and freeform structures (which incidentally Mendelsohn had praised as elastic during a previous visit). Wright ignored this work like so much Edwardian wall paper, and paused to comment only at work that was blatantly influenced by Frank Lloyd Wright. Besides recognising originality in his students, Goff continues to enjoy seeing

his own influence in the work of others where it is not a travesty. Like most artistic temperaments he is identified with his work and is definitely concerned with a place in history.

On Ornament

Goff often said he wished he could be reincarnated as court architect to the King of Siam or an oriental potentate who would allow him to indulge his taste for rich ornament. His predilection for the fanciful and decorated may be seen in his most youthful drawings. He also has been very susceptible to the decorative art of the South-West Indians, Japanese prints, the work of Gustav Klimt, and the decorative poster styles of the 20s exemplified by Erte. After viewing the Stocklet Mansion during a trip to Belgium in the 60s, Goff discussed Hoffman's work in painstaking detail as a masterpiece. Eric Mendelsohn and his wife had seen the house more like a design for a great cabinet – flat and decorative rather than a tectonic statement of modern structure and space. I think much of the applied ornament of Goff's later work is an attempt to elaborate buildings made simplistic by inflated costs and inadequate craftsmanship. He often spends several days completing his houses by glueing and pasting tiles, bits of glass and sequins on beams and surfaces. My own view is that the profusion of his later ornament tends to treat architectural space more as one of his paintings, and this is not to the good. Structures, spatial ideas, and sensibility, vivid in its feeling for the haptic, tactile, and the 'synaesthetic' perception so manifest in the Ford House spray of quonset ribs and the space, light, and texture of the Bavinger House, are not as much evident in his later work.

Goff has persisted in his view of ornament as a personal statement, a mark of individuality, a garment designed by the architect to reflect the character of his client and the designer's own unique experience. His students have, of course, differed widely in their approach to ornament. My own view is that ornament can become a new expression of society and the times. The need for labour-intensive rather than energy-intensive production, the rise of interest in crafts, the failure of mass production and high technology to assure architectural economy, are becoming worldwide facts of contemporary life. I have been working on proposals in which ornament becomes an ongoing process of incorporating people's art into armatures or long-lived structures. These accommodate a human commentary on life with great possibilities for expression of humour and seriousness. The armature can enrich the visual environment, provide vehicles of cultural memory and opportunities for creative acts on many levels of participation by the public. In the future, I believe Goff will be seen as one of the few modern architects who kept alive the tradition of ornament. Like Ruskin and Sullivan, he sees ornament as a poetic elaboration fundamental to human needs.

Herb Greene, architect, teacher and painter, is professor of architecture at the University of Kentucky. He is well known for houses and buildings he has designed in Oklahoma and Kentucky, especially for the shingled Prairie House built in 1960 in Norman. His book *Mind and Image* published in 1976 has been acclaimed by reviewers (including *AD*). His next book on the reintegration of art and architecture is being prepared. Greene's architectural drawings and his paintings have been exhibited in one-man shows in New York, Chicago, and Louisville.

John Sergeant:

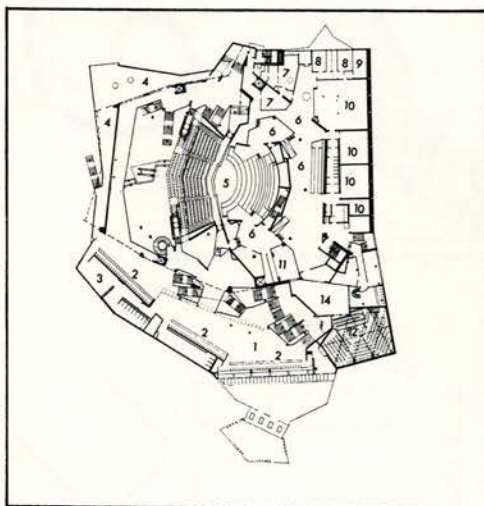
BRUCE GOFF, THE STRICT GEOMETRIST

Growth and continuity are basic to organic architecture. It would be expected that this would be accomplished in a biological fashion, but the concrete nature of building materials makes this difficult. Instead, a process of accretion has been used, and this implies geometric structure. Goff has confronted this problem with both free-form and orthogonally structured responses.

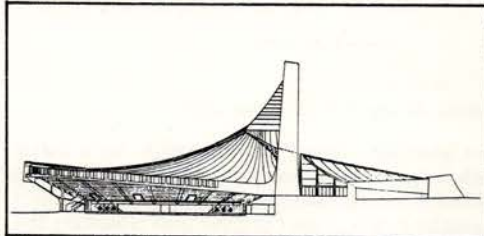
To many professional observers¹ the visual exuberance of Goff's designs suggests that they are capricious. This reading is reinforced by the knowledge that he is self-taught and from Hicksville America, a combination that is almost intolerable to Ivy League intellectuals. However, behind the superficial outrageousness of much of his work (and this is an interpretive projection, raising the whole question of popular and elitist taste) lies a geometric rigour which ought to receive serious attention.

The notion of a responsive or organic architecture, as seen for example by Hugo Häring,² involves a correspondence between the form of the building and the movement patterns of its users. In the manner of a flower or tree, lobbies or circulation areas are widest where traffic is densest, and narrower where the human (or animal) population is lighter. This principle can be seen operating throughout Aalto's work, and in the lyrical example of Kenzo Tange's Tokyo Olympic Buildings (1961), where the forms of spectators' sight-lines and circulation are fused with the structure with an extraordinary inevitability. Such a formal generator is richly receptive to the demands of large numbers of users in such public buildings as concert halls. An architecture of flow, drama and particularity is suggested, which signals its use without causing disorientation and without resource to sign systems. However, the need for such a building to grow poses a threat to such a design strategy. Clearly, corridors or doorways cannot organically widen in the manner of the stem or artery in a growing plant or mammal. In practice, the ability of a building to grow or mutate implies an underlying order, in which case change can be analogous to crystalline accretion.

American organic architecture has always made use of geometric planning grids. This anomaly has demonstrable origins. Sullivan, Wright, Griffin, Byrne, Elmslie, and all the members of the Prairie School, shared a common guru in Herbert Spencer, the theorist of the day.⁴ In his *System of Synthetic Philosophy* (1887), Spencer articulated an evolutionary attitude that was clearly affected by



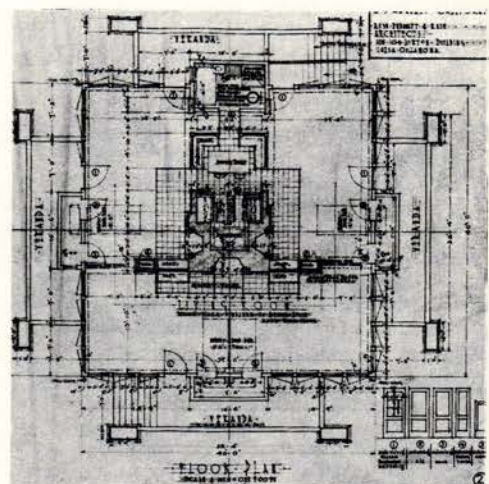
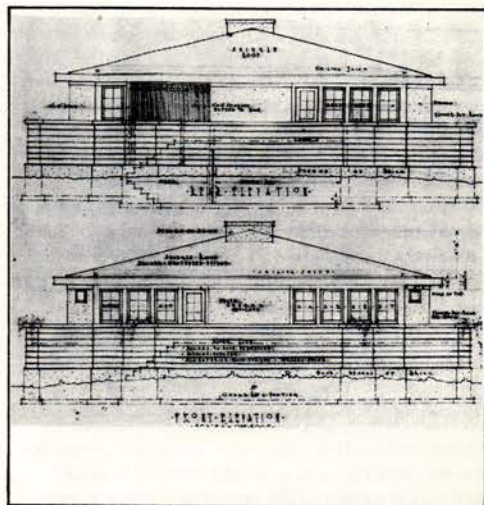
Philharmonie, Berlin (1963), Hans Scharoun



Olympic buildings, Tokyo, (1961), Kenzo Tange

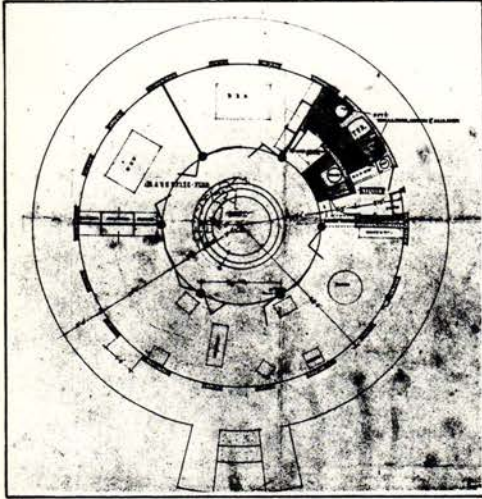
Darwin, and which was to colour Frank Lloyd Wright's outlook for a lifetime – Spencer asserted, for example, that 'society is an organism'. He maintained the importance of memory and bodily experience in the perception of space,⁵ and believed that crystalline organisation underlay the structure of all matter. Both lessons were absorbed by Wright, and while the latter proved to be scientifically incorrect, it re-inforced the inclination obtained from Wright's Froebelian training to look for structure in the natural world. Together, these precepts enabled him to invent an architecture which was full of human warmth, yet intellectually ordered.

Goff's father was a jeweller and gave the boy crystals to play with. Pyrites, crystalline rocks, and semi-precious stones are to be found all over the American south-west. It seems only natural that this experience was analogous to that of Wright's kindergarten, and predisposed the young architect to recognise the clear geometric order in the



Graves House, Los Angeles (1919), Bruce Goff

architecture of his hero. The Prairie houses that Goff avidly studied in the 1908 issue of *Architectural Record* while working for Rush Endecott and Rush, in Tulsa,⁶ Oklahoma, showed him a three-dimensional experience which was projected from the underlying tartan-grid plans.⁷ By 1919, his own work evidenced this influence, while also demonstrating an original concern with a centralised plan. The Graves summer house, near Los Angeles,⁸ contains both tartan-gridding and features reminis-



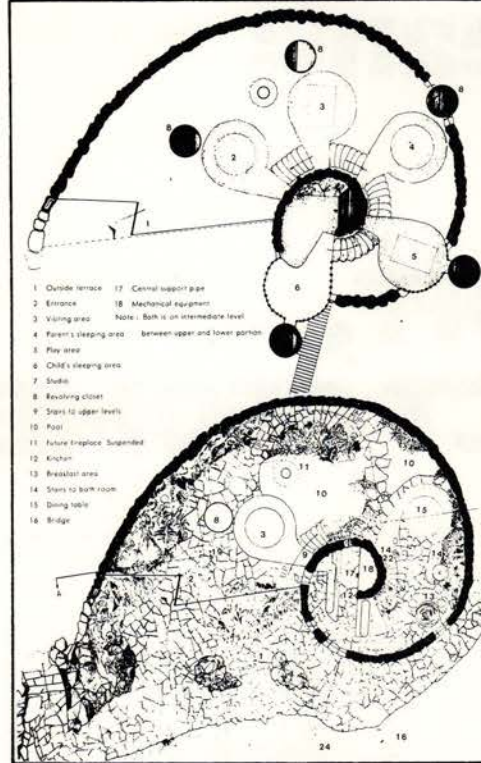
House study (1922), Bruce Goff

cent of Wright's Cheyney house (1904); but its plan revolves around a service-totem which is both an island (outlined by a central tiled square) and multiple hearth. Goff also placed articulated bathroom or storage units around the perimeter; these stand out from the plane of each facade, and can already at this early date be seen as prototype satellite elements. That Goff was also influenced by the geometry and pattern of Indian weaving and rug-making is shown by his remodelling of the Convention Hall, Tulsa (1930), where he used an insistent diagonal geometry to dissolve and change the existing space. A study for a house of 1922 is remarkable for what De Long calls its 'vertical axis'. The circular plan is centralised and internalised about a pool, which is recessed into the floor and skylit. This was to become a basic Goffian theme, and also reveals a withdrawn character (no differentiation of facades or inside-outside duality) and a certain cavalier attitude towards symmetry (the centralised space is perceptually destroyed by the kitchen-bathroom segment). These two themes, namely a withdrawn, introverted character and a lack of concern for the conventional demands of symmetry, re-appear constantly in Goff's work.

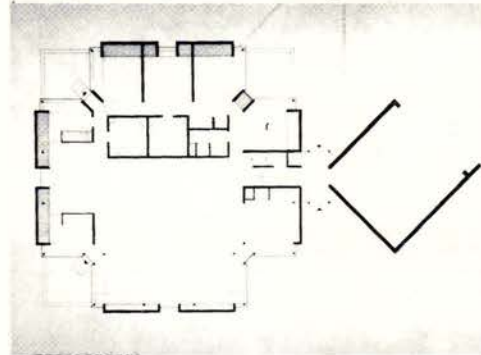
Plan Types

The Bavinger House (1950) near Norman, Oklahoma, and Hyde House (1965), Kansas City, Kansas, typify two orders of geometry or manners of design. The first type is curvilinear⁹ and consists basically of an undulating wall which defines and controls a somewhat free interior space and satellite service elements. In the Bavinger example, this wall is a very exact geometric figure, an equiangular or logarithmic curve: it contrasts and clashes with an equally constant secondary system of suspended bowls. The second type is crystalline, and in the Hyde case contains nesting squares with an underlying 45° system. From these generic plan-types spring a whole family of building forms, all strictly geometrised.

Of course, such an analysis must be only introductory, as one category can quickly turn into another. The Plunkett guesthouse, for example, is very much like a Wankel engine in plan: it combines triangular features with circular (teepee), and also manages to spiral. However, these broad categories are a useful tool with which to approach Goff's large and varying output. Indeed some designs achieve unclassifiable quality, and a critic falls back on the sort of personal responses that Goff's work has always popularly evoked: 'insect-like',



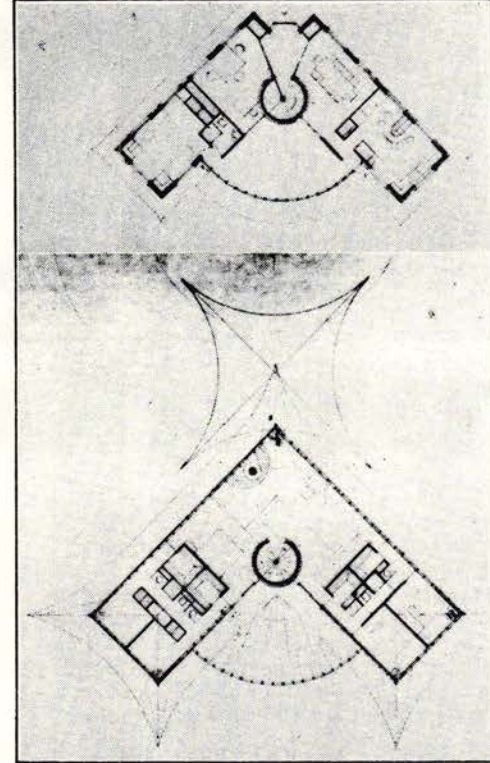
Bavinger House (1950), Bruce Goff



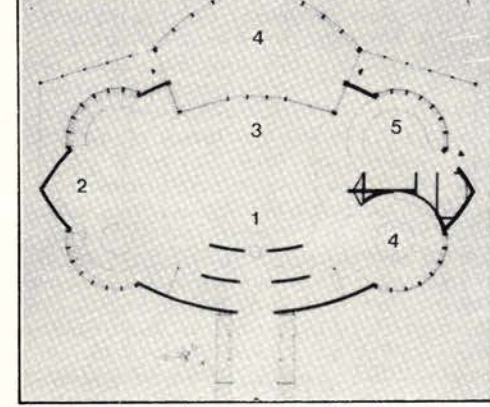
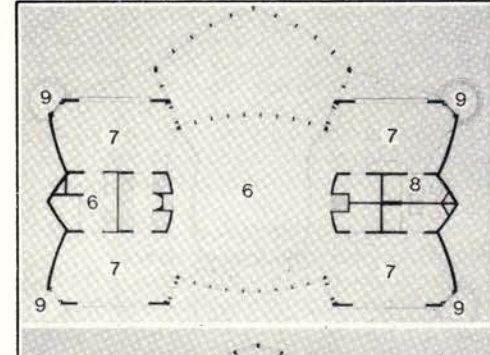
Hyde House (1965), Bruce Goff

or 'plan like a flower' (Gryder 1960). Some radial plans are so sloped and elongated that they are best likened to rocket launching platforms; and the rectangular Rodin project of 1961 is so crouching and attenuated that it can only be a praying mantis.

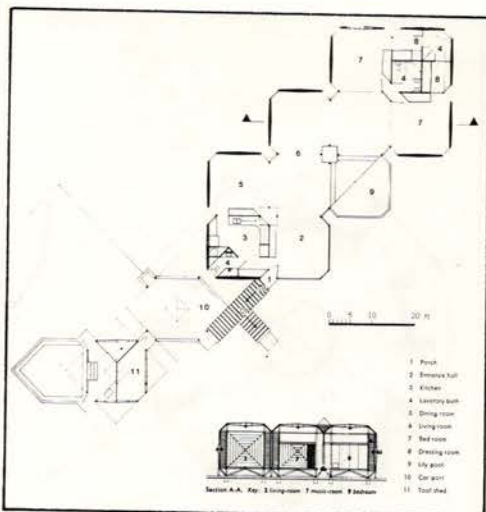
Goff's geometry may be used only to indicate possible activities, or it may be highly specific. In his Wilson house (1951) at Pensacola, Florida, a structural bay of metal tube construction was developed which was ventilated across its corners by splayed glass jalousies, toplift from splayed clerestories and raised to facilitate easy service runs. In this instance, these were linked to form either *service* (kitchen, bathroom etc) or *served* modules – to use Kahn terminology. The interior has a diagonal spatial quality and lends itself to alternative uses: walls are clad either with glass or redwood infill panels. The whole design was regarded by Goff as the closest that he came to a possible mass-housing prototype. By contrast, the Gutman house (1958) at Gulfport, Mississippi, has more specific space-uses suggested by its geometry. It is also of triangulated steel pipe construction, raised above the ground, in this case made necessary by site flooding and the need to take advantage of the view; cars park below, and access to the house is



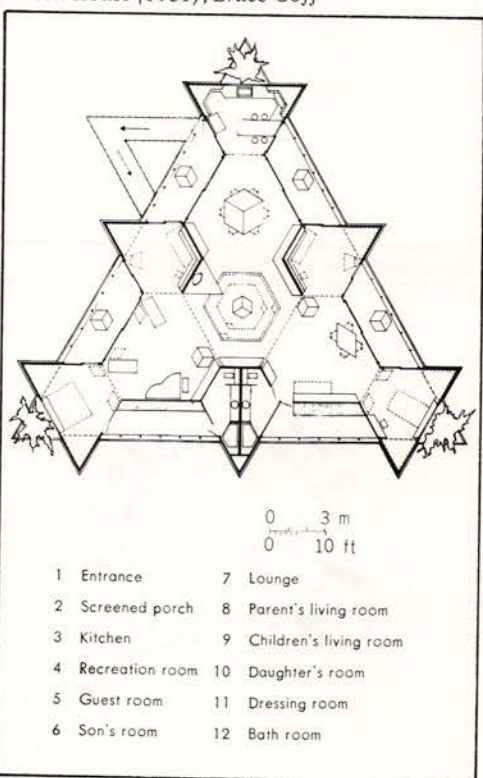
Plunkett House (1972), Bruce Goff



Gryder House (1960), Bruce Goff by an external stair.¹⁰ Each facade of the triangular plan is broken up by three triangular prows; these are triangular storage units for the family activities requiring privacy: bedrooms, bathrooms, and kitchen (nearest the entrance). Between these are externally, a series of screened porches, and internally, the gathering places for family and friends. Three hexagonal areas, for children's living room, parents' music and study, and dining and recreation, surround a central hexagonal lounge with sunken



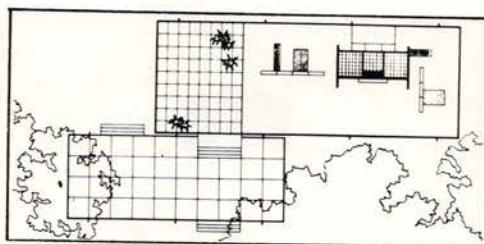
Wilson House (1951), Bruce Goff



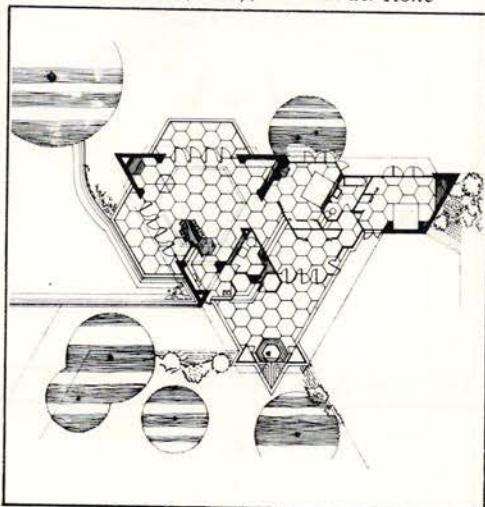
Gutman House (1958), Bruce Goff

seating and fireplace.¹¹ Together with manipulating internal heights, Goff uses his geometry to generate four types of space, each appropriate to its activity; in a more metaphysical sense it also celebrates the structure of the family with its three members, and offers terminals, in the form of the corner planters, equipped with overlooking windows, which are open to the world outside.

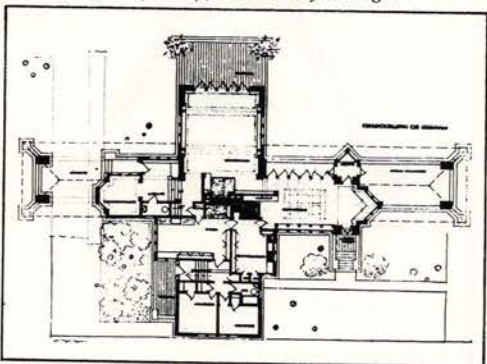
In these two houses, Goff addresses the problem of flexibility versus determinacy, which is a central contemporary architectural issue. Goff's Wilson house might be compared with its Miesian equivalent, for example the Farnsworth house (1950). It is less pristine, but it shares the planning principle of service core and flexible, undefined living space. A fireplace and covered terrace area are provided in each case, but the furnishing is left to the occupant. The Gutman house could be compared with Wright's Sundt project (1942) for Madison, Wisconsin. An important difference will be discussed later, but similarities are strong. Both



Farnsworth House (1950), Mies van der Rohe



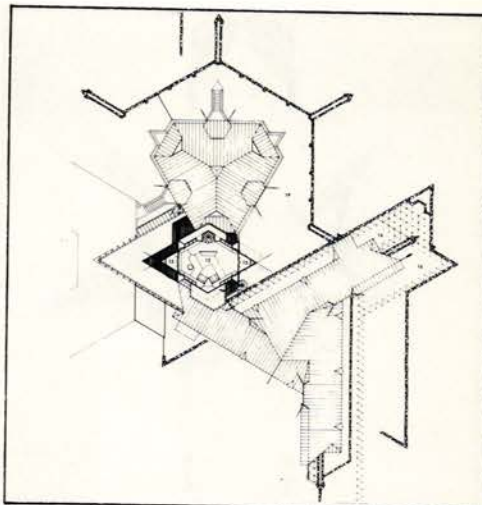
Sundt Project (1941), Frank Lloyd Wright



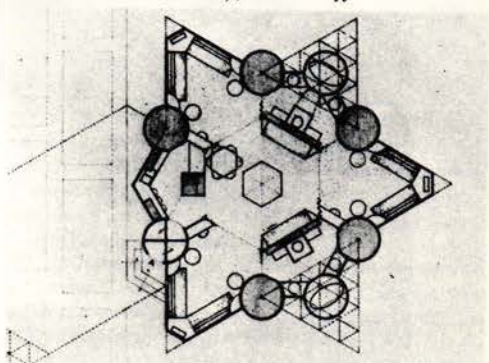
Willits Plan (1902), Frank Lloyd Wright

have a raised central space for the family to entertain (in Wright's case, with a clerestory and concentrically boarded ceiling), and three specific corner activities – dining, study, and child-living in Gutman, fireplace-sitting in Sundt. Both architects make use of built-in furniture, and design window openings for specified purposes.¹² The first attitude has classical origins, where one of a large number of rooms could be devoted to a given, changeable purpose, and the second is close to the Arts and Crafts concern with how to differentiate a single large room in a small house. In a Baillie Scott design, for example, there would be at least three types of built-in seating: by the dining table, by the fireside in an inglenook, and in a bay window; there might also be a diagonal bay projecting beyond the plane of the house, for a piano. Wright's Ward Willits house (1902) and many other Prairie houses show his commitment to this idea.¹³ As Barry Parker put it:

... if your big room is to be comfortable it *must* have recesses. There is a great charm in a room broken up in plan, where that slight feeling of mystery is given to it which arises when you cannot see the whole room from any one point



Joe Price House (1956-), Bruce Goff

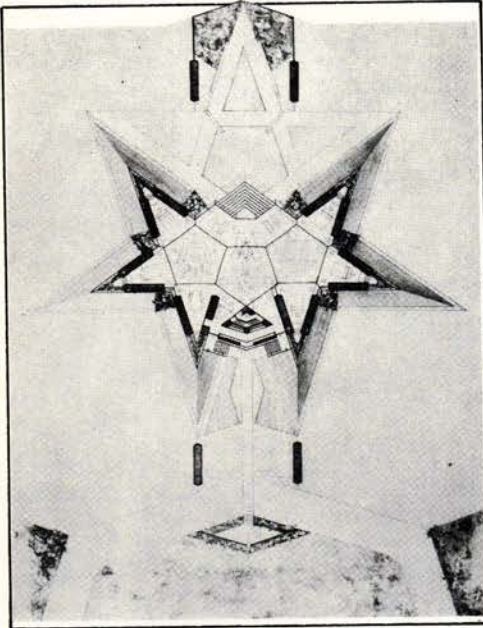


House 'B' for Briar Associates (1964), Bruce Goff

in which you are likely to sit; when there is always something round the corner.¹⁴ (my italics)

Goff's planning geometry is always explicit and static. The spaces themselves may be very fluid, or the materials used in them may dissolve – even etherealise – the architectural enclosure, but the placement of walls or activities is exact and ordered. The Price home and studio (Starview Farm) is a good example of this. The 60° geometry gives a triangular grid with hexagonal potential, which was used in stage 2 – the gallery – and extends into the section (sloping walls, window cut-outs etc). The studio plan is a highly crystalline pinwheel with structural loads and services precisely clustered in each arm; but the building materials are carefully orchestrated to combat this precision; crumbly coal outlines to regulate exterior walls, all set with jagged glass cullet, mirrored window surrounds which mystify their shape, the famous goose feathers to soften the quality of rooflight on the ceiling, and in stage 3 – the retreat – angular ceiling mirrors and polished onyx floor combine to de-materialise any sense of enclosure. Bruce Goff calls it 'the kaleidoscope'. But the point is that beneath his dazzling orchestration, Goff is struggling to escape the demands of his own T-square and triangle (or French curves and cosine tables). His geometry is frozen. At its most intractable it threatens that sense of ease, or at least utility, generally associated with the home.

His House B of 1964, for Briar Associates, has a most insistent plan of characteristically Goffian type. It is star-shaped with an erosion for carport; the points of the star alternate in use between bedrooms and services; bedrooms can be isolated into stunted diamonds by sliding doors, and are articu-



Bass Project (1956), Bruce Goff

lated by satellite circular closets; the living area is toplit and entirely internalised. There is a possible reading of the entrance having been shifted into becoming a carport tool-cupboard; but the important act of entering Goff's snow crystal remains somewhat mean, and belies the presence of his centralised form.

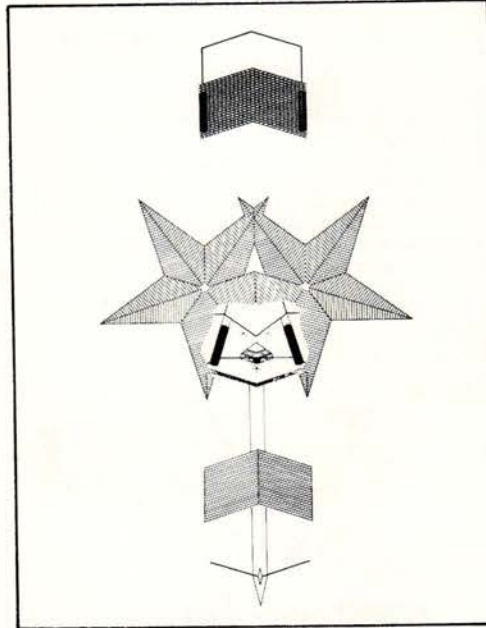
On a larger scale, the same problem is exhibited in the Bass project, 1956. A two-star admiral merits a grand plan with family pentangles; but ultimately there is the same clash between entrance and kitchen, which duel for the same geometric slot. The brilliantly developed geometrical hierarchy suffers from one of its points being a dining room while the others are bedrooms.

It has been argued that this very abstract, 'frozen' geometry is unworkable;¹⁵ it has been called 'heraldic'. De Long, however, feels that it represents only an extreme development, and draws attention to the geometry as pattern.¹⁶ He suggests that the complication and ambiguity of architectural experience which result from such plans parallel the aims of Sufi architecture, where complex overlapping pattern was used to sustain contemplation. This may be so, but Goff's handling of symmetry must also be set in Western culture.

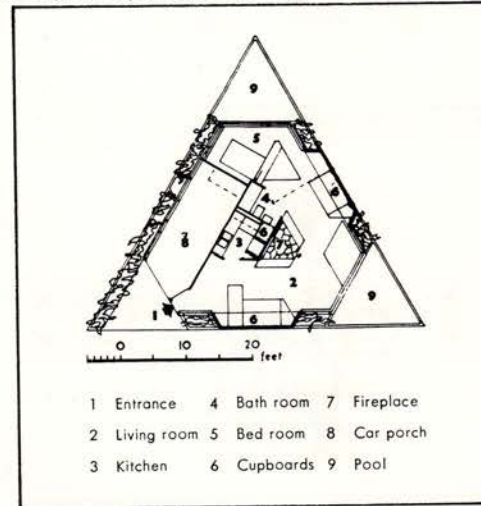
The problem of how to resolve entry with a perfectly centralised plan-form is an old one, and has exerted Bramante and Michelangelo. Both architects were trying to reconcile then-current philosophical ideas of micro-macrocosm with practical problems of use, and what may be called the 'St Peter's syndrome' still haunts any architect using symmetry.¹⁷ Bramante ducked the issue by setting his snow crystal within a mirror-image piazza, and it was left to Michelangelo to firmly fix the entrance with one giant portico.

Goff's Triaero, or first Bartman house (1941), near Fern Creek, Kentucky, is a matter of very different scale, but a matter of the same conceptual issue. Goff drives the car in effect into the house-space. It is early Goff, wonderfully developed in his triangular grid planning, its terminals of glass-to-glass with pools, and its slatted detailing; but the potential sense of continuous space around the core is lost by the invasion of the garage.

The spiral plans of the Bavinger house (1950) and Price studio (1956) are also ideal forms. They



Bass project (1956), Bruce Goff

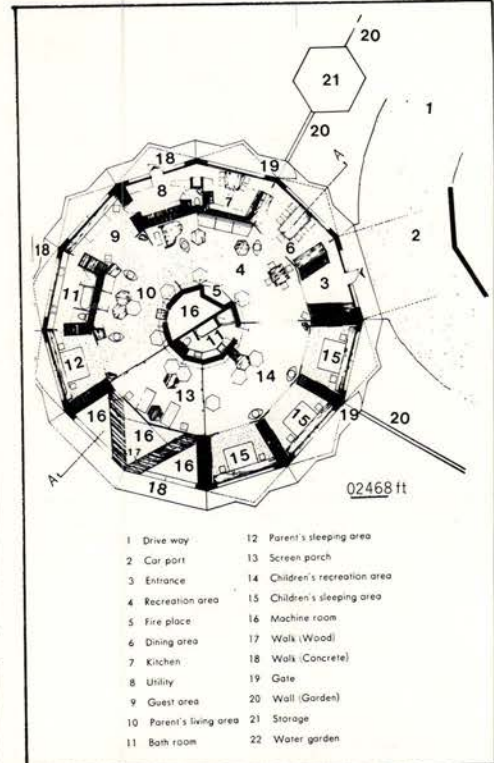


Triaero (1941), Bruce Goff

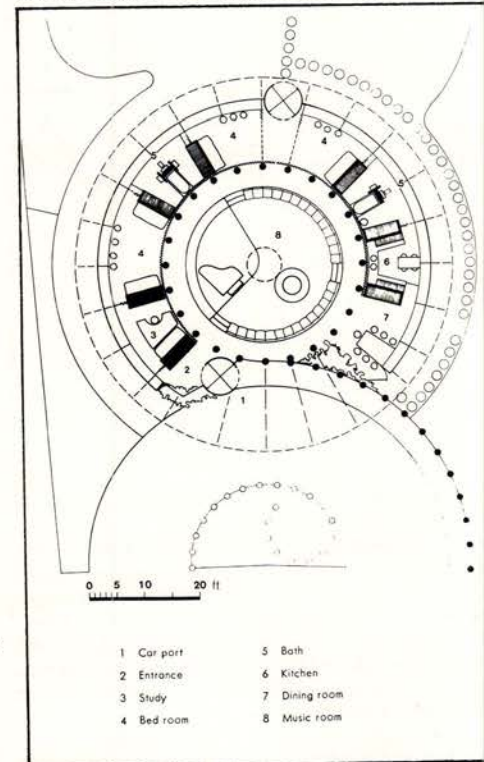
approximate a swastika, and like the Latin cross, are difficult to enter. They are also difficult to 'stop', since both forms are spinning. The Bavinger spiral crawls out of bedrock by the streamside, and is not related to vehicular movement at the rear. The entry sequence is initially confusing, as arrival is not signalled visually and is in fact achieved by meandering downwards in a very low-key way around the start of the mighty spiral wall. This can be compared with the way in which Wright emphatically stops the Guggenheim spiral by a reverse inflection as it twists to the floor. The Price pinwheel was 'tamed' by the off-centre conversation pit and retaining walls, but was not 'controlled' until the museum extension was added in 1966.

In a later centralised plan, the McCullough house, Wichita Falls, Texas (1956), the very size of the core militates against the sense of central place, and the space as experienced can be quite different in family use, as any member can annex a part of the central place by sliding walls across it, what is left being variable slices of spatial cheese.

That Goff can solve this domestic/conceptual problem is shown by his earlier second Garvey house, Urbana, Illinois (1954). Here, the circular



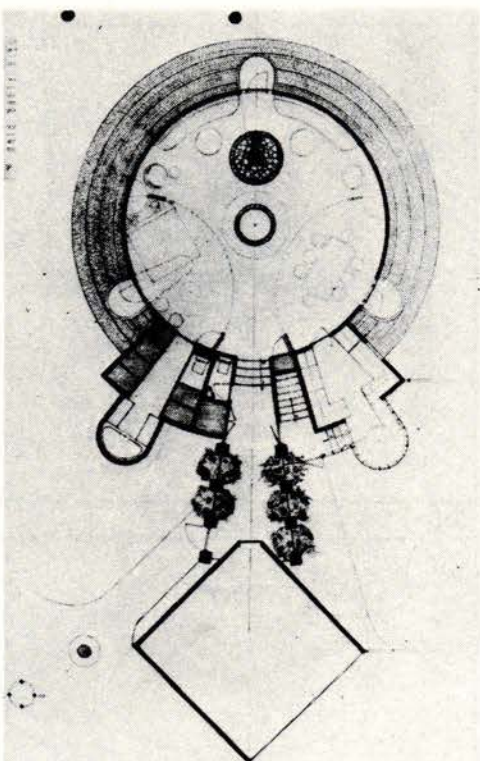
McCullough House (1956), Bruce Goff



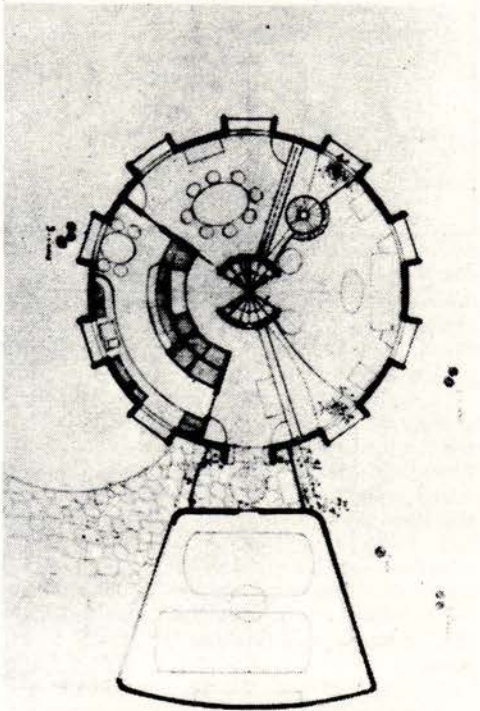
Garvey House (1954), Bruce Goff

geometry was organised by zones, in rings, so that more specialised activities (sleeping, dining) were shuttled around to obtain the appropriate outside sub-division, and separated from the central sunken entertaining and music room by a sewer-pipe columned arcade. The driveway and its screen (also pipe/columns) were a second circle invading the first, and the carport and entrance occurred at the intersection of the two circles.

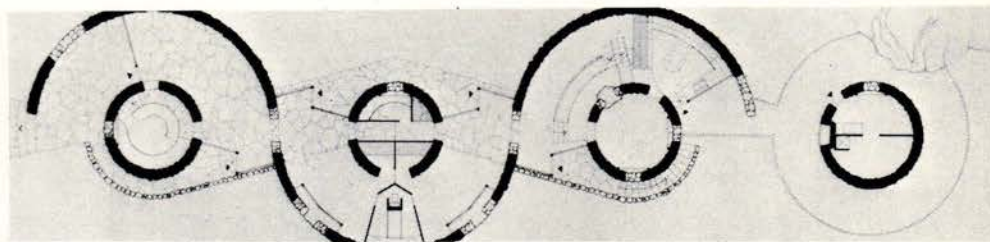
Goff's introspective, very self-sufficient plan-



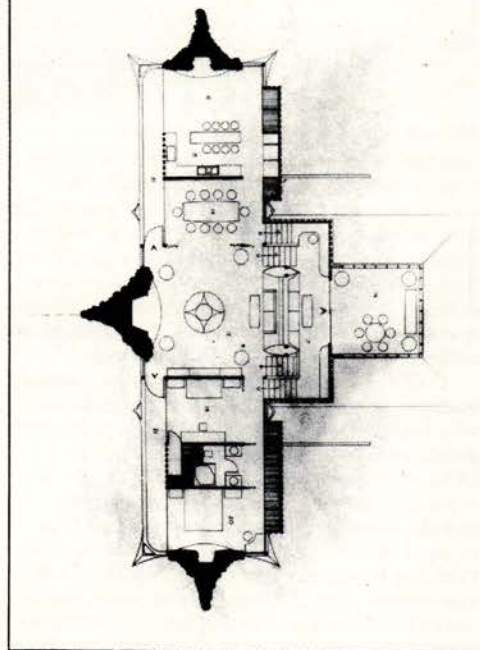
Riddle Project (1965), Bruce Goff



Yongstrom House (1967), Bruce Goff



Duncan House (1965), Bruce Goff

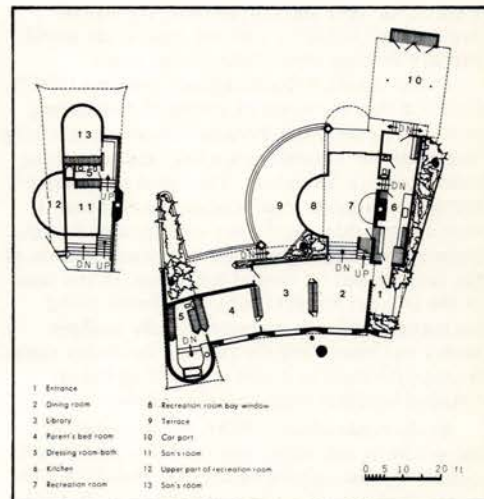


Harder House (1970), Bruce Goff

conditions, and only appeared with Wright with his Californian work and after.¹⁸ Goff adopted the strategy of conceding a subservient form of geometry to the garage and car movement. This results in what might be termed 'both - and'. It is a marriage of two building forms, one of family life and repose, the other of vehicular movement.

In Goff's work, this is most explicit in the Hyde house (1965), or in the remarkable Riddle (1965), Abraham (1967), and Yongstrom No1 (1967) projects.¹⁹ Each design appears to be like two insects mating, or perhaps a highly articulated insect such as a wasp, where the waist or junction is the point of entry. In Beaux-Arts terminology this would be the *dégagement*, and in the language of NASA, the link between modules.

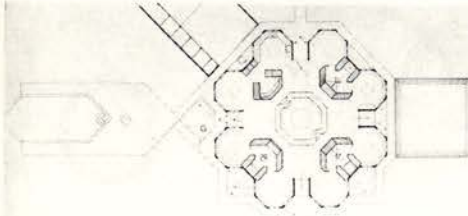
It is not so much the dearth of dramatic sites - when available Goff uses them: Bavinger (1950) or Duncan (1965) - as personal choice that keeps the plans inward-looking. From the age of 12, he worked part or full-time in an architect's office and



Durst House (1958), Bruce Goff

rarely went outside to play with other children.²⁰ The power which nature exerted on Goff during his military service was due to a combination of the primeval character of Arctic Aleutian landscape, and having the time to observe it.²¹ This, coupled with the desire to be different from Wright,²² the objective of designing for air-conditioning, and his own life-style, makes Goff's architecture somewhat internalised. So although both use originating or controlling geometries, the results are entirely different. This may be seen in the earlier comparison of Goff's Gutman house and Wright's Sundt project. Both use a triagrid²³ and have similar dispositions of daytime rooms. Both have spatial ambiguity, but this is achieved by entirely different means. With Goff it is the result of overlapping geometrical figures operating within a contained context. With Wright the house is an enclosed element in a system of triangles which constantly move out and engage the landscape; nature, in the form of the boat-dock, flows into the grid.²⁴ One is static, exclusive, the other is fluid and inclusive. Wright found his aims best expressed in Eastern philosophy, in Lao-Tsu, and Okakura's 'true beauty could be discovered only by one who mentally completed the incomplete'. Goff also searches for ambiguity, the need to involve the building user in discovering the qualities of his design, but he achieves it by a literal geometry whose lacy configurations, and whose materials produce surprise.²⁵

The Prairie School called for, but rarely achieved, individuality in architecture. Goff has shown himself outstandingly able to express the character of his clients, however this occurs by a private alchemy of his own design process. The geometry of the same plan-type may be expressed in many different visual forms. Only the flaring form of the chimneys in the Harder plan, Mountain Lake, Minnesota, (1970) gives any clue that the house will look like swooping orange turkeys and not like, say, a scaly fish (Joe Price project for Lake Tahoe). In his Durst house, Houston, Texas (1958), of the radial plan-type, the building stands at the circular end of



Nicoll House (1966), Bruce Goff

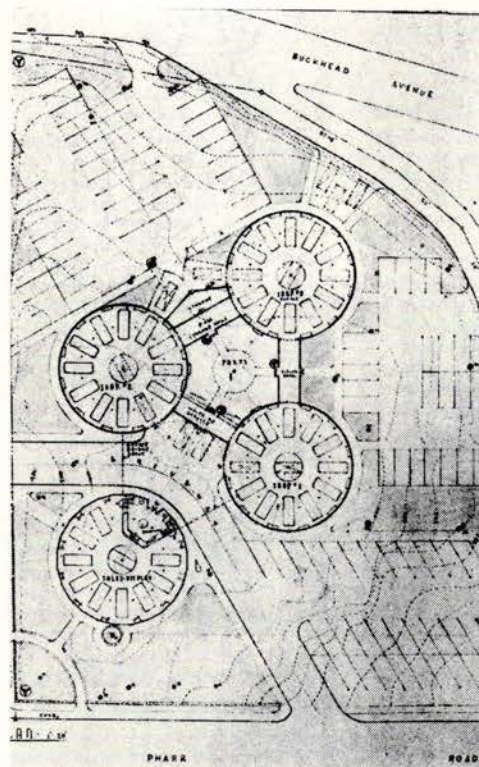
a cul-de-sac, and takes on its radii; it hurriedly gathers itself behind a wall and regards the world placidly through three staring frogs' eyes.

In his Atlanta Mercedes agency buildings (1967), Goff felt that the image of precision engineering projected by Mercedes-Benz cars required something more than the normal service bay, and something more akin to a laboratory. The radial geometry of the design presents many cars to the customer's view and provides mechanics with increased work-space around the engines; the movement pattern of the cars is based on central turntables. In the case of the Duncan house (1965), the clients' liking for natural materials suggested locally-available timber and stone, and the form of the design came from Goff's need to evolve a way of laying up rounded boulders using unskilled labour

In the Hyde house (1965), the centrality of the geometry is broken, and therefore made more useable, by the interior bathroom 'module' which screens bedroom from entertaining areas; but it is recalled by Goff's use of Mrs Hyde's favourite colours, marine hues. The standard deep-pile shag carpet is laid in concentric bands which start with a deep indigo furthest out, then progressively turn warmer and greener toward the mint tiled hearth. Whether the formal generator is a practical imperative or an aesthetic preference of the client, Goff strives in his work for an appropriateness and consistency in its geometry and use of materials. The combination is uniquely Goff's. It is frequently exotic, but possesses its own internal logic and clarity. The green cladding of the Hyde house or the fish-scale shingles of the Nicoll house (1965), continue into the interiors and contribute to the mood of the building, such details as glass ash-tray flourishes contributing embellishment. These details amplify the terminals²⁶ and are therefore important, but do not constitute intentions of a design; the prevailing impression of the Hyde house, for example, is not **ASHTRAYS!**, but a magical calm. Goff's exploration of the edge of his conceptual structure, and the way this is expressed in construction, lead to two final considerations: his architecture has anthropomorphic qualities and is conceived in terms of a musical order.

Goff's pursuit of the rich potential of his planning geometry means that physical structure is not just explicit, but celebrated. Main beams develop into 'markers' and may be accompanied by lighting beacons. In the Comer house, Dewey, Oklahoma (1957) – a representative design – the main beams end in lighting lobes and work with reticulated pylons to suspend the entire carport roof on wiring. The effect is zoomorphic, like a crab's mouth: not scary, but giving emphatic signs of arrival and entry. Such metaphors may be read by an observer and were intended by Goff. The decorated terminal beams in the Molsenbocker (1957) and Price houses articulate the structure and service elements, and were referred to by him as 'birdcatchers'. In the Price studio, the great spiralling 60 ft main beams and north-light are delineated by golden equilateral triangles which also state the cell of the whole plan.

The experiential characteristics of place-making

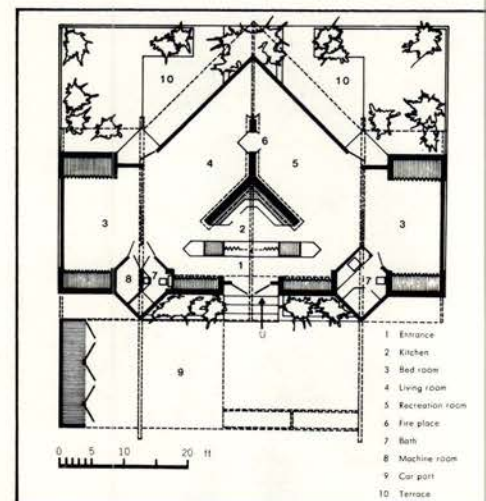


Mercedes-Benz Agency building (1967)

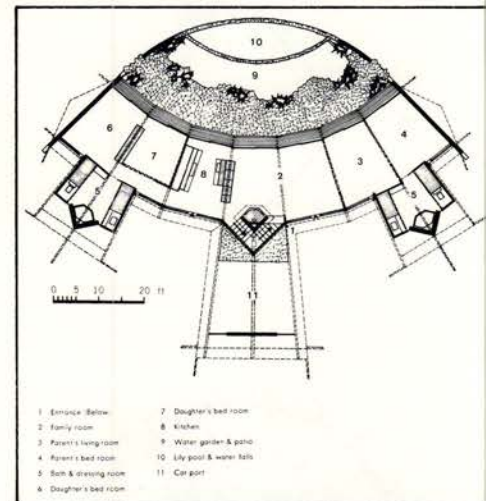
that have been brought into the centre of architectural debate by Bloomer and Moore,²⁷ have always been an integral aspect of Goff's work. That functionalism might be psychological as well as physical, is a proposition that has been greatly extended by Herb Greene,²⁸ but has always been inherent in American organic architecture, where decoration was the 'efflorescence' of structure, and anthropomorphic character was ascribable.²⁹

Goff's theory of composition also has musical qualities. It is to be expected that the architect who has made such use of non-Euclidean geometry should have lectured his students at Norman, Oklahoma from 1947 to 1955 on four types of symmetry, on tone, polyphony, homophony, melody, harmony, ornamentation, and on four types of counterpoint.³⁰ Wright's admiration for Bach and Beethoven says a great deal about his ever-present grids and unvarying rhythms, just as Goff's looser modes of design and orchestration of rhythm and materials evoke the *timbre*, the silence of Debussy. His designs are rhythmically complex, textural (haptic), and themal.

The Hyde house can summarise Goff's contribution to architecture, not as a master-work, but for being typical. It is on a rectangular urban lot and was designed for a surgeon and his family. It is a centralised plan, and symbolises the family unit with a hearth and skylight which can be experienced from any part of the house.³¹ It is also a 'both-and' plan, with 45° geometry for the garage, entry being between this and house. Its form (not-rounded) and colour (green) were requested by its owners. The pyramidal main room terminates at splay corners between particularised bays, and leads out to the grass or garden. A V-shaped eye regards the road from the main facade. Great beams, machicolated with ornament, connect the house visually with the garage. They terminate with crystalline (green-ashtray) lights which bristle with copper antennae. Two of these welcome a visitor, who is then accompanied, ushered as it were by an architectural footman, into the family presence, at



Comer House (1956), Bruce Goff



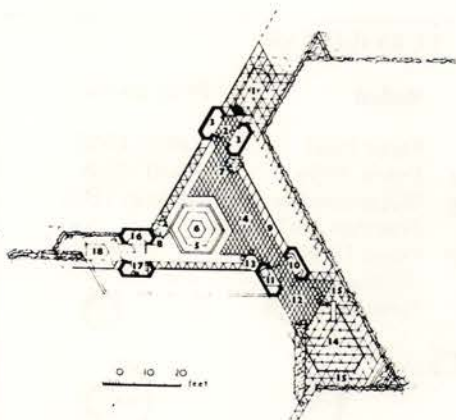
Molsenbocker House (1957), Bruce Goff

which point he is 'introduced' by their pairs. The fireplace is reserved for special treatment and is highlighted by a mint-green tile base and spectral mosaic back. The whole is geometrically conceived and musically orchestrated.

It was Wright who stated that there should be as many kinds of house as there are individuals, and this has been achieved to a great extent by Bruce Goff. It has been done by use of the tools of American organic architecture and the architect's skill Hugo Häring articulated the idea of an architecture which was closely suited to the functions of the user, but this was seen in a physical, mechanistic sense. It is refreshing that Goff has enlarged this to include psychological goals, and to claim for him the title of truly functional architect.

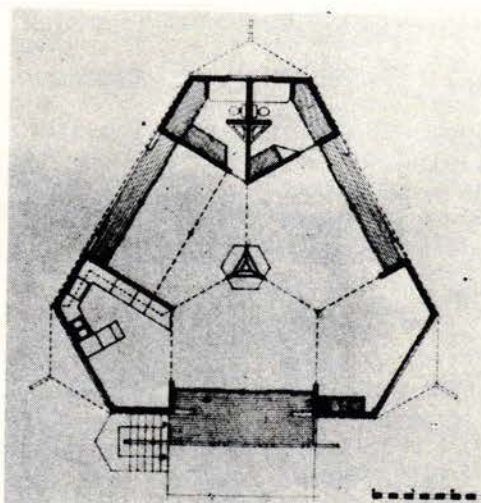
Notes

- 1 See Charles Jencks, 'The Michelangelo of Kitsch' in this issue. Such disparate figures as Johanson (interview with Goff in Oct 1977) and James Stirling (1978 Sir Banister Fletcher Professorial remark) agree that Goff is 'just kitsch'. I take kitsch to imply fortuitous, as well as fashionable bad taste.
- 2 Hugo Häring (1925), 'Approaches to Form', trans Peter Blundell-Jones, *AAQ* Vol 10 No 1, 1978.
- 3 I remember that Colin Rowe would always dismiss Aalto as 'having... all intellectual content' when I was a student.
- 4 H Allen Brooks, *The Prairie School*, U of Toronto Press.

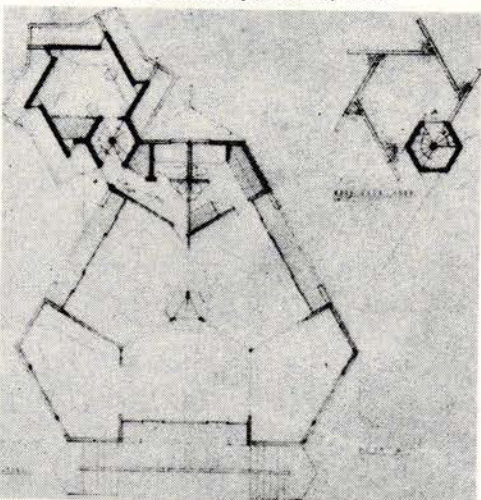


Above: Plan. Key: 1 car port 2 entrance 3 storage 4 studio 5 sunken seating area 6 bar and record player 7 speaker and plants 8 T.V. and plants 9 photo storage and exhibition wall 10 kitchen 11 utility space 12 screened porch 13 dining table 14 swimming pool 15 terrace 16 dressing and closet space, 17 bath 18 bedroom

Price house, Bartlesville, stage 1



Searing house, Kansas City, Kansas, 1965.



Goff has shown how he expands even his most rigid plans. In the Price house the triagrid creeps on, and in the Searing house one corner is turned up to become a tower.

definition: certainly the spiral designs and reflex wall plans, such as the Ledbetter (1947) or Duncan (1965), are highly controlled and susceptible to multi-centre radial geometry. Almost the only truly 'indeterminate' or free-form design is the abandoned first Price studio, with its sloping floors and ceiling and unaligned walls. Revealingly, Goff said of it: '... sometimes we feel the need to go to the other extreme and develop a very free approach ... try to emancipate ourselves from geometry, you might say.' (Quoted by De Long, p289.)

- 10 The house has an aerofoil section and this, with the cross-bracing, has enabled it to ride out a number of hurricanes.
- 11 The Bass house project (1956) has a similar but more lavish plan.
- 12 Wright's satellite-table is similar to that in Goff's Price plan.
- 13 Ashbee provided the direct link and lectured at Hull House.
- 14 Barry Parker and Raymond Unwin, *The Art of Building a Home*, Longmans Green & Co, London, 1901. This is discussed by Dean Hawkes in 'The Architectural Partnership of Barry Parker and Raymond Unwin', *Architectural Review* 6/78 p 327.

15 Conrads and Sperlich, *The Architecture of Fantasy: Utopian Planning and Building in Modern Times*, trans, Collins, Praeger 1962 NY and Bauwelt 1/58.

16 De Long, *op cit*, p 464.

17 Bramante's Latin cross could only be entered simultaneously from all four apses or from underneath the dome (which was reserved for St Peter). Michelangelo destroyed the symmetrical perfection of the plan, but gained some ambiguity with his entrance.

18 It was Wright's policy to seek dramatic sites; the *Personal Architectural Services of Frank Lloyd Wright*, a document of the Usonian period, states 'acreage is indispensable'.

19 The Riddle plan contains a fire and pool which are not just internal icons, in Charles Moore's sense, but sacred elements evocative of those in the Sioux teepee.

20 Interview of BG by me in Milwaukee, Wisconsin, October 1977.

21 *Ibid*

22 Goff claims that he consciously moved away from the Wrightian imagery of his early work as a result of reading Wright's 1974 'In the Cause of Architecture' (2nd part) article in which 'half-baked, imitative designs' were discouraged and individuality praised.

23 I think it likely that both were influenced by Buckminster Fuller's Dymaxion house project (1927-30). Fuller's use of light-weight structure, triangulation, and centralised services were radical. The latter two considerations had immediate effect on Wright's formulation of his Usonian house concept. What amounted to his manifesto for the new American small house appeared in *Taliesin* magazine in 1935, and contained a polemic for centralised services couched in terms which are all Fuller. Hexagonal grids do not appear in Wright's work until after publication of the Dymaxion house. When Wright persuaded the Prices to reject Goff's first free-form design for Joe's studio (see De Long's article), it was a hex-triagrid design that he approved.

24 This balance between abstract geometry and nature is examined in my *Frank Lloyd Wright's Usonian Houses*, 1975, and 'Warp and Woof', *Environment and Planning B*, 1976.

25 'It is natural that a work of art surprises us, partly because it is so rare ... Surprise engages our attention, whether it pleases or repulses us; but this is not enough. Something is needed to sustain our interest, if the work is to be meaningful to us. We call this quality "mystery" ... 'Goff: *Forty-Four Architectural Realizations*, p 4; quoted by DeLong, *ibid*, p 465.

26 Terminating a design or its geometry formed an important part of Wright's instruction at Taliesin and of his architectural philosophy. Goff defines terminal as 'Boundary terminus occurring at the end of a series of happenings. The design need not stop - it is merely a resting point or an emphatic point at the end of a series of incidents.'

27 *Body, Memory, and Architecture*, Yale University Press, New Haven, 1977.

28 Herb Greene has done pioneer work on the imagery carried by architecture: see *Mind and Image*, Kentucky University Press, Lexington, 1976. His Prairie house must be the mostly widely interpreted building of the century: he calls it variously 'haystack', 'buffalo', 'mother hen', and 'wounded creature'.

Price house, Bartlesville, Studio, stage 2

5 Vol 2, chap XI, pp 137, 181 etc. Spencer rejects both Descartes' and Kant's positions on the subject.

6 Goff described this in his Milwaukee Conference talk, Oct 1977.

7 For an analysis of this see Richard MacCormac's 'Anatomy of Wright's Aesthetic', *Architectural Review*, 2/68, and 'Froebel's Kindergarten Gifts and the Early Work of Frank Lloyd Wright' *Environment & Planning* Vol 1, 1974.

8 De Long, *The Architecture of Bruce Goff*, Garland, New York, 1977, says that this house was built in the Los Angeles area, p 15.

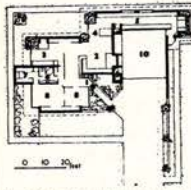
9 De Long (*The Architecture of Bruce Goff*, Garland, New York, 1977) defines this as indeterminate; see also his essay *Websters Dictionary* describes this as: 'Not determinate; indefinite; not distinct or precise; vague; unsettled; uncertain; not leading to a definite end or result.' In my view, most of Goff's curvilinear designs do not fill this

CRYSTALLINE

CURVILINEAR

Rectangular

Elin 1938
Cole 1939
Colmorgan 1940
Cox 1949
Murdoch 1955
Freeman 1958
Fitchette 1961
Barby No1 1962
Dace 1964
Harder 1970
Plunkett 1970

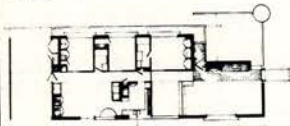


Cox 49

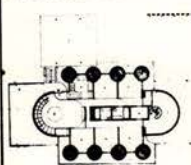


Hyde 65

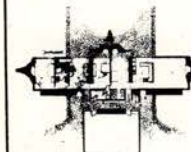
Barby No1 62



Fitchette 61



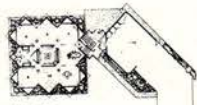
Dace 64



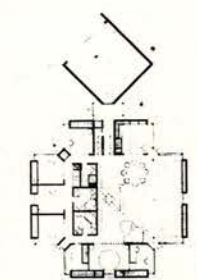
Harder 70

Diagonal

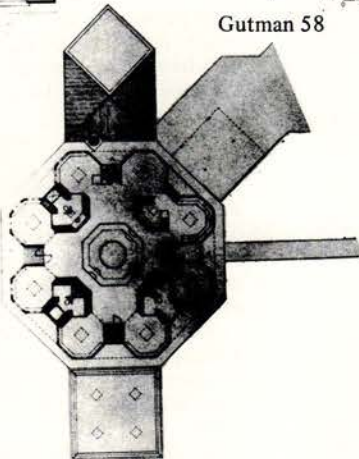
Wilson 1951
Pollock 1957
Jones 1958
Goff 1960
Hyde 1965
Nicoll No3 1965



Pollock 57



Hyde 65



Nicoll No3 65

Triangular

Unseth 1940
Bartman 1941
(Triaero)
Bass 1956
Price 1956/74
Gutman 1958
Searing 1966



Bartman 41 (Triaero)



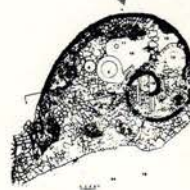
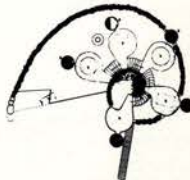
Bass 56



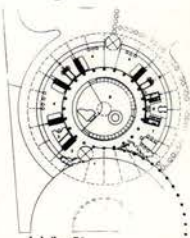
Gutman 58

Spiral

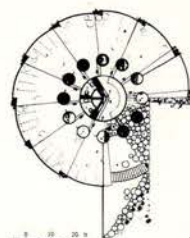
Gillis 1945
Bavinger 1950
Garvey No2 1952
Barnes 1955



Bavinger 50



Garvey No2 52



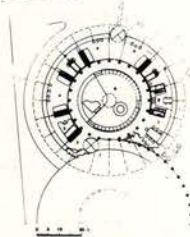
Barnes 55

Circular

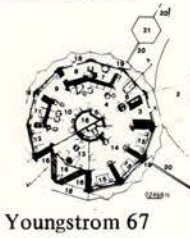
Ford 1948
Garvey No2 1954
McCullough 1956
Abraham 1967
Youngstrom 1967



Ford 48



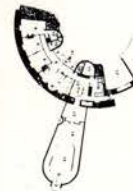
Garvey No2 54



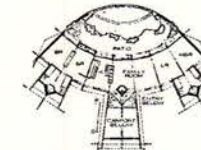
Youngstrom 67

Radial

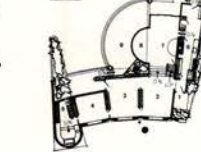
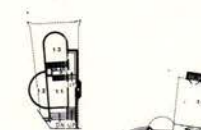
Perez 1953
Frank 1955
Motsenbocker 1957
Freeman No1 1958
Durst 1958
Collins 1959
Gelbman 1959



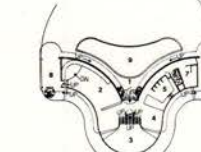
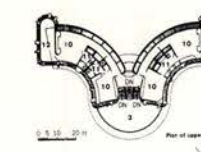
Frank 55



Motsenbocker 57



Durst 58



Gelbman 59

Processional

Leidig 1946
Rudd 1959
Duncan 1965



Duncan 65

John Sergeant's comparison of the geometries of Bruce Goff's plans

29 Efflorescence was a Sullivanian term. Francisco Menocal has traced the origins of American anthropomorphic thinking to the German philosopher, Steiglitz. (paper to Milwaukee Conference 1977).

30 Goff's lecture notes for his 'Architecture 273' course.

31 From the bay window seats or bedrooms, all family members can see sunlight and reflected firelight in the central high space.

John Sergeant: Architect, occasional historian, and small-holder. Born 1939, educated at Queen's College, Cambridge. Worked for Skidmore Owings and Merrill in San Francisco and moonlighted with Charles Moore. In private practice trying to make a responsive, energy-conserving architecture. Teaches design at the Bartlett School of Architecture, University College, London. Wrote *Frank Lloyd Wright's Usonian Houses* (Whitney Library of Design, New York, 1976), author of articles and re-

viewer on the subject of organic architecture. Currently arranging symposium on Organic Architecture at the Architectural Association and Bartlett in London, completing diagonal 'prow' house, and working on a spiral thatch.

Stephen Mooring:

BRUCE GOFF: AN ORNAMENTAL LINK

Ornamentation was generally accepted as a desirable component of architecture from the earliest civilisation until the end of the first world war. Even today architects in many parts of the world, where western influences are not so revered, decorate their buildings with stylised ornament inspired by traditional design. The tide which washed the buildings of the 20th century devoid of ornament was born of diverse forces. Primary among these forces what Reyner Banham has called the 'first machine age'. To this the arts responded. In architecture the vogue of streamlining and technical functionalism prevailed and 'all that was not essential was eliminated'. Another force against ornament was the socio-political ideal of mass housing. Ornamentation was thought to represent bourgeois taste and certainly did not fit in with the style appropriate to industrial processes.

The demise of ornamentation was also influenced by several major architects of the early 20th century. Prominent among these was Adolf Loos whose article 'Ornament and Crime' (1910) argued against continuing with decorative styles. There he wrote 'the path of culture is the path away from ornamentation towards the elimination of ornament', and later 'when it finally became my lot to build a house . . . I looked at the old buildings, and saw how they emancipated themselves from ornamentation'. While it has been argued that he was really advocating an arts and crafts philosophy against academic designers, and perhaps reinforcing William Morris' statement of 1882 that 'the [decorative] arts have got to die . . . before they can be born again', Loos undoubtedly contributed an intellectual impetus to what later became a prominent feature of the International Style — its lack of ornament.

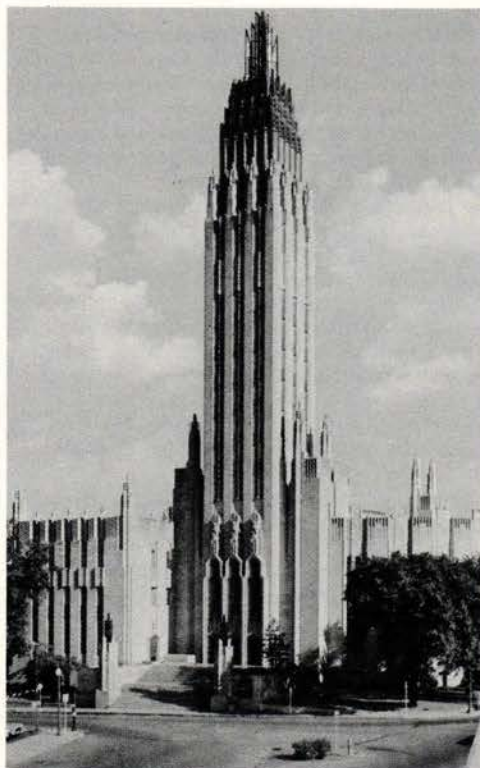
In America Louis Sullivan, the pioneer philosopher of modern architecture, wrote that:

it would be greatly for our aesthetic good if we should refrain from the use of ornament for a period of years, in order that our thought might concentrate upon the production of buildings well formed and comely in the nude. (*Ornament in Architecture*. 1892, revised version in *Kindergarten Chats*. 1947).

This statement was a reaction against the neo-classicism of the Chicago Exhibition and his plea was, in reality, for a system of ornament appropriate for each building, in sympathy with its building, and reinforcing and heightening the qualities of that building. Sullivan continued his treatise by

writing:

a building which is truly a work of art and I consider none other is in its nature, essence and physical being an emotional expression . . . an ornamented structure should be characterised by this quality, namely that the same emotional impulse shall flow throughout harmoniously into its varied forms of expression — of which, while the mass-composition is the more pro-



found, the decorative ornamentation is the more intense [and] both spring from the same source of feeling. I am aware that a decorated building, designed on this principle, will require in its creator a high sustained emotional tension, and an organic singleness of idea and purpose maintained to the last.

The mainstream of American organic architecture — the Prairie School — took up Sullivan's

challenge and produced a series of outstanding designs ornamented in geometric patterns, executed in stone, terra-cotta, timber, metalwork, glazed tiles and stained glass, which have only recently been rediscovered. In particular, Walter Burley Griffin, Barry Byrnes, and most importantly Frank Lloyd Wright, made brilliant contributions to organic ornament. Wright often argued for integral ornament in organic architecture and stated that in his work 'the ornament is wrought in the warp and woof of the structure' (*Architectural Record*, 3/1908). To the very end, and to the dismay of many critics, Wright continued to design new and original patterns of ornament for his buildings. However, Wright's most outstanding ornamental work came after his return from Europe in the Midway Gardens of 1913. Here Wright, in cooperation with the sculptor Ianelli, produced an Aladdin's cave for dining and entertainment in which geometric themes of circles and squares repeated in endless variations, from the teacups to the total, in a composition which can only be compared to a great orchestration by Wright's musical hero, Beethoven. Three years later the young Bruce Goff began his life's work in Tulsa, Oklahoma.

The young Goff certainly had a background filled with ornamental influences. His father was a jeweller and his great grandmother collected crystals, sea shells and feathers as well as painting watercolours. Furthermore, Goff also recalls early impressions of Oklahoma Indians and their blankets, beads and moccasins. Luck also played its part as his father, looking for a tangible outlet for his precocious son, left him with Rush, Endacott & Rush, a firm of architects knowledgeable of and sympathetic to the Prairie School architects. In this same year, 1916, Goff discovered the younger Rush's bible, the 1908 issue of *Architectural Record* on Frank Lloyd Wright. Goff recalls:

the work looked like what I had always wanted to see. It hit me hard. It opened up a whole world, and I sensed something important there, a devastating feeling of beauty (David De Long: *The Architecture of Bruce Goff*, 1977).

Goff never looked back from that point. He was convinced that architecture was art and, although not yet aware of Sullivan, an emotional expression.

Goff's first major project demonstrates in its ornamentation an understanding and sensitivity to work of the Prairie School. The Boston Avenue Methodist Church of 1925 shows a maturity of

handling which belies Goff's 21 years of age. The design style is 'prairie gothic' and was influenced and inspired by Sullivan's church in Cedar Rapids, Iowa. The church is executed in limestone with terra-cotta spandrels, stained glass windows, and a glass and copper terminal to its tower. The principal motif could be described as stylised wheat sheafs or clusters of arrow tail feathers, the former symbol probably being more acceptable to Oklahoma farmers. Goff says that the terminal was designed to reflect moonlight, which leads me to prefer the latter symbol. There are also minor ornaments of gold stars and stylised designs in the windows, light fittings, and interior panelling which all reinforce the total design.

The other buildings of Goff's early period show a contemporary awareness of art deco. The Riverside Studio of 1928, with its obvious abstractions of musical notation, provides a snappy facade which simply describes the function of the building. For sheer art deco delight Goff's alterations to the Tulsa Convention Hall in 1930 are incredibly rich, while also imparting a sympathetic acknowledgement to Indian art.

The period 1916-34 was one in which Goff assimilated many influences. These affected not only his ability to handle massing, space and planning, and other architectural disciplines, but developed his ability to create *his* organic ornament. Among these influences were Japanese prints and the painters Klimt and Kupka, the composers Debussy and Ravel, the European architects Gaudi and Mendelsohn and the Americans Schindler and Lloyd Wright – eldest son of FLW. But the principal decorative influences were the fashion designer Erté and the architect/designer Claude Fayette Bragdon. Erté's geometric patterns and use of colour particularly impressed Goff as did Erté's belief that clothes should reflect the client's personality. This probably also influenced Goff's own taste in clothes. Goff discovered Bragdon through his book *Projective Ornament* (1915) and various articles with evocative titles such as 'Pattern from Magic Squares', 'Mathematics as a Source of Decorative Design', 'A Dissertation on Dynamic Symmetry', and 'An Art of Light'. The visual patterns created by Bragdon were immediately attractive to Goff, as was Bragdon's philosophy that

the great need of the ornamentalist is a solid foundation . . . mathematics and geometry provide this foundation . . . [and] design is purely a matter of space subdivision . . . if these relations are orderly, based on some law, and law abiding, as opposed to merely fortuitous and accidental, it makes for beauty (De Long, *op cit*).

In 1934 Goff moved to Chicago and for a short period collaborated with Inanelli before taking up a teaching post with the Chicago Academy of Fine Arts. During the next seven years Goff's decorative exuberance seems overtaken by a conservative phase. This could have origins in the Tulsa house for Richard Lloyd Jones by Wright, which is singularly without ornamentation, or it could be a more general atmosphere influenced by the great depression and his move to a new environment.

Two designs at the end of the 30s show a re-awakening and new directions in Goff's ornament. Firstly, the Unseth house of 1939 in which diagonal boarding in elevation is used to reflect a 45° triangular plan. In this house Goff also begins to demonstrate an extraordinary attraction to developing point and counterpoint of fireplace and windows as decorative features of the design.

Finally, Goff for the first time employs inexpensive glass dishes set on edge (at 45°) in the front door, almost as a design introduction. Thus the Unseth house signals, in my opinion, the main directions of Goff's later work. The other principal design of this period is the Bartman house – Triaero (tri = triangular, aero = aeronautical) – with its obvious reference to Buckminster Fuller's Dymaxion House. Goff's design however appears much more personal and livable. It also has a striking decorative treatment. The walls of spaced redwood boarding on copper backing, the open triangular overhanging trellis, and the large glass corner windows set at 60° give a visual effect of Op Art which is years ahead of its time.

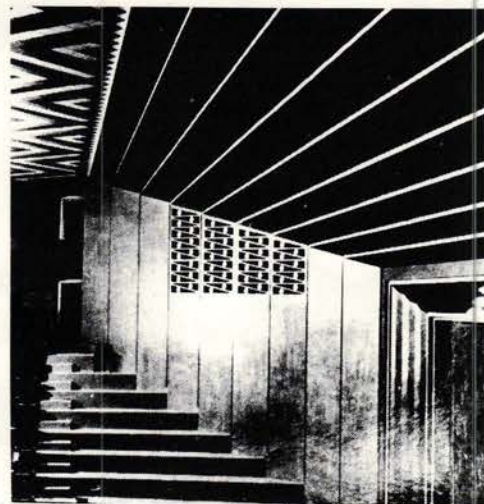
During the second world war Goff joined the US Navy in the Aleutian Islands and was struck by their bleakness and strange natural beauty. Returning with the navy to Camp Parks, California, Goff creates a decorator's delight. Due to material shortage and general lack of budget, Goff transformed the Camp's 'Star Bar' with cut plywood stained with shoe polish, grocery string sculptures from floor to ceiling, and a fountain of ordinary balloons activated by an electric fan. This is a classic example of adhocism – using the only materials to hand to create a work of art. While Goff continues in later work to use non-typical materials in unusual and artistic ways, it is by choice and suitability to the total design, and not for reasons of cost or unavailability.¹

By 1946 Bruce Goff is, in his early 40s, an architect of extraordinary ability, fully mature, and entering the great period of his work that continues today. He is by now recognised in journals and acknowledged by many fellow professionals. His talent in creating with new geometries or with free forms, his development of fantastic spaces, his use of unusual materials, and his ability to design organic ornament sympathetic to and enhancing his designs, are boundless.

In Goff's work it is often difficult to assess where the architecture becomes ornament or vice versa. This is often true of organic architecture, and follows principles stated by Sullivan and Wright that ornament should be 'of the thing and not on it'. There is a series in Goff's work of square windows set on edge such as the Snyder project, where the window function – to admit light and air, or to focus on specific views – is secondary to an artistic or decorative effect on the total building. Is the window of the building or is the building of the window?

Another Goff feature, mentioned earlier, is to relate fireplace to windows and both to the geometry of the design – point and counterpoint of the composition. In the Murdoch project the square on edge theme is developed in three dimensions, with the fireplace as a cube set on its point, and the windows establishing another similar theme. In the Durst house the geometry of the site is reflected in the curves in plan, the eyeball windows and the oval mouth fireplace. The trilogy is very explicit in the Crystal Chapel project with its equilateral geometry dominating. Here the bell tower, substituted for the fireplace, and the diamond shaped windows, as well as the glass and silver chains hanging over the worshippers, repeat and celebrate the triangular theme.

At a smaller scale, Goff often offers clues about the geometry near the entry or where the observer first comes within visual contact. Examples of this are the gate to the Garvey project of 1952, the fence to the McCollough project of 1954, the entry doors to the Gelbman house and the Nicol house, and the balustrade to the Searing house.



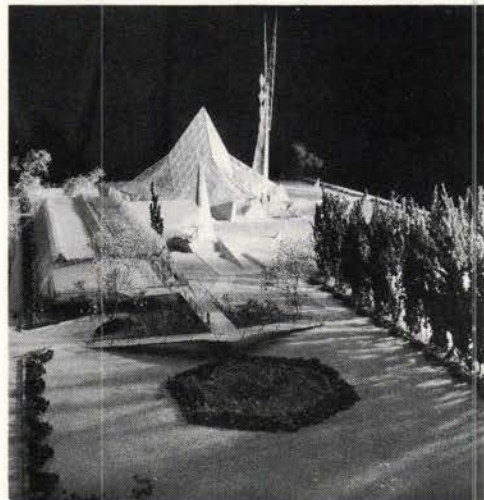
Bruce Goff: Convention Hall alterations, (1930)



One large piece of blue silk, lined with green, and a great green tassel, form this evening wrap.

OCT. 1921

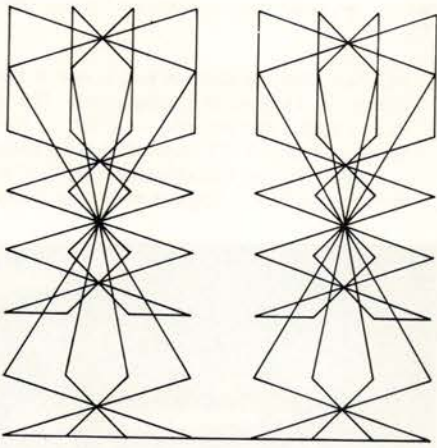
Erté: Design for an evening wrap, 'Harper's Bazaar'



Bruce Goff: Crystal Chape Project, Oklahoma Uni

52	61	4	13	20	29	36	45
14	3	62	51	46	35	30	19
53	60	5	12	21	28	37	44
11	6	59	54	43	38	27	22
55	58	7	10	23	26	39	42
9	8	57	56	41	40	25	24
50	63	2	15	18	31	34	47
16	1	64	49	48	33	32	17

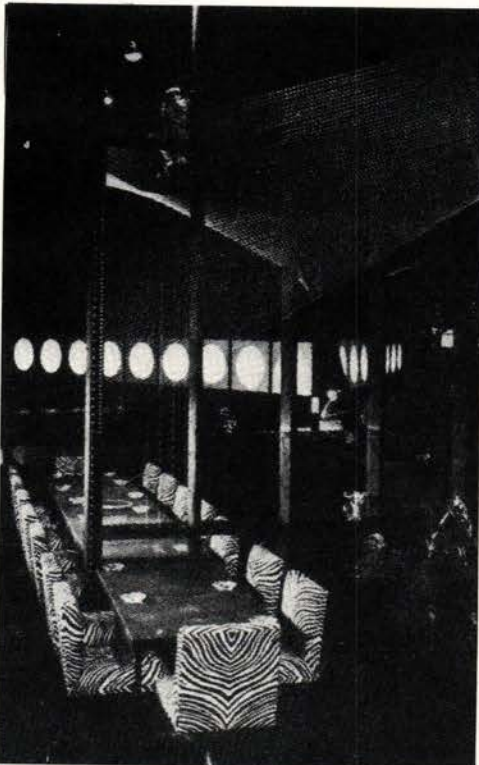
Magic Square



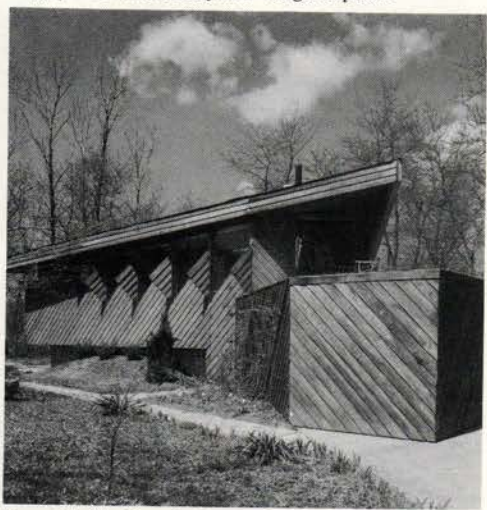
Goff pattern derived from 'Magic Square'



Bruce Goff: 'Triaero' House, Louisville, Kentucky



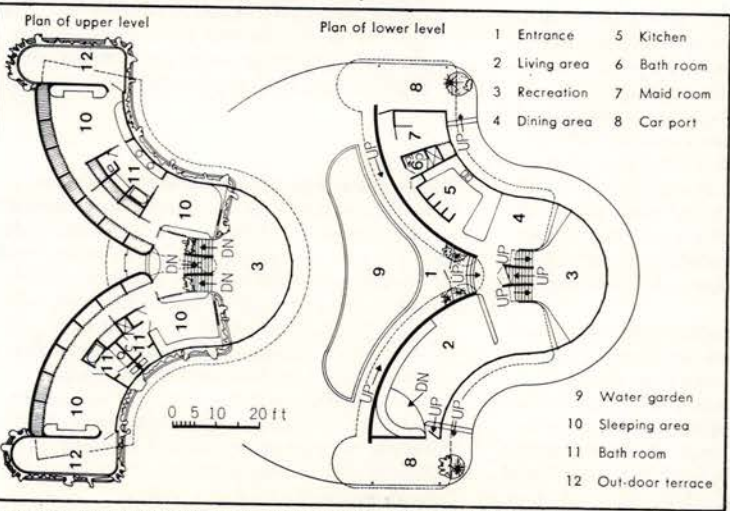
Bruce Goff: Star Bar, Camp Parks, California



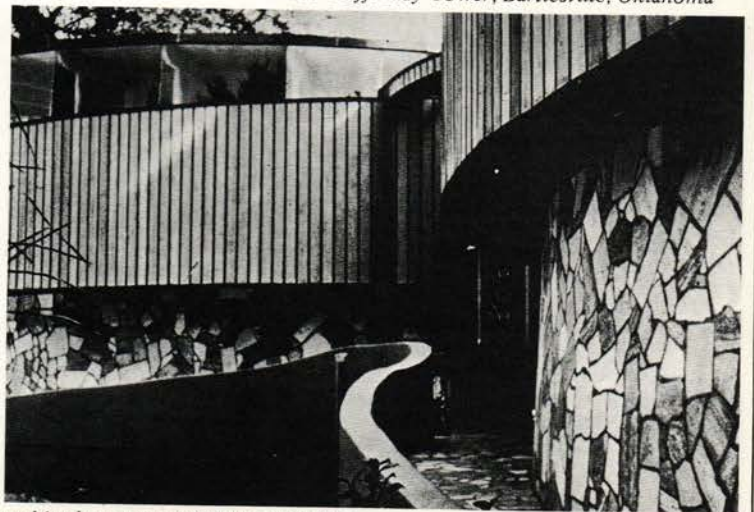
Bruce Goff: Unseth House, Park Ridge, Chicago



Bruce Goff: Play Tower, Bartlesville, Oklahoma



Bruce Goff: Gelbman House, Jacksonville, Florida (1959). The house plan is repeated in the ornamentation of the door.



Goff often decorates the terminals, structures and walls of his work. Given the opportunity and incentive he will also turn his ornamental wizardry to furniture, furnishings, and special features. For terrific terminals see the Dewlen Aparture project, the birdcatcher beam ends of the Mostenbocker house, and the coxcomb chimney caps and wing tip lights of the Harder house. For striking structures see the Ford house umbrella, or the flying carport of the Comer house. And for wonderful walls see the peacock tail fans of the second Plunkett house. Finally, for fantastic furniture, furnishings and special features – goosefeather skylight to mirror and onyx kaleidoscope – see the Price studio, house and retreat, where the wizard is at his best.²

Two other schemes deserve special attention because they demonstrate so well a marriage of architecture and ornament – the Gutman house of 1958 and the Hyde house of 1965. Both contain a number of decorative and ornamental effects already noted, and both use unusual materials in an artistic way. The Gutman house in Gulfport, Mississippi, is based on triangular geometry, primarily for strength. Seen from afar, one notes the triangular skylight on top, the diagonal metal balustrading on the sides, and three sets of tabular struts splaying out from their bases to lift the structure into the air, above the flooding level of the bayou. The colours are blue and white and enhance the nautical feeling. Closer up, one's eye is caught by the sparkling underbelly of the structure – broken children's marbles tossed into the plaster, the tetrahedron lights and the stairway edged in triangles. Climbing into the structure, one's attention is brought to the hexagonal pit, a wall beyond contains a mural of triangles in mirror and coloured plastic, a triangular motif edges the built-in furniture, double tetrahedron lights hang from above, and finally one sees again the triangular skylight.

While the former scheme is triangular, the Hyde house in Kansas City, Kansas, pursues a square theme throughout. This scheme has a cruciform plan and avoids circles relentlessly. (see 'A Starting Point' elsewhere in this issue). The plan does, however, set the garage at 45° to the main house, and features in elevation the lower half of a square window on edge – both are part of Goff's vernacular. From a distance the house is subdued and distinctive, its blue-green shingles suggesting a lush suburban neighbourhood. Nearer the house one notes the suggestive window, overlapping square on edge glazing in the entry door, the octagonal light terminals containing nine glass ashtrays, the blue, green and white overlapping square motif on the structural beams, and the square on edge design of the metal balustrade over the garage. Once inside one is drawn to the square metal fireplace set at 45° to the plan. Above, it is suspended from a pyramidal skylight from which hang four lines of plastic rain in a cross plan. The structural beams come in lower with their sparkling terminals stopping short of the skylight. Behind is the upper half of a square on edge as a mural of shingles and mirror mosaic. Below is a square raised hearth, tiled, in the centre of overlapping squares of carpet which change in colour from light green to dark blue. Finally, one faces back to that special window – the magical eye. Both of these designs demonstrate Goff's ability to blend architecture and ornament so successfully that it is hard to imagine one without the other.

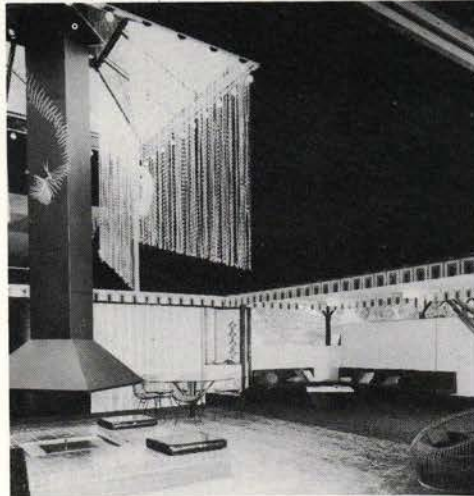
When Bruce Goff speaks of design he uses the language of music. He speaks of rhythm, flow, point, counterpoint, balance, depth, scale, conso-

nance, dissonance, harmony, modulation, tone and melody. From his course on design 'Architecture 273':

In architecture an idea can be a major or minor theme, used as part of a composition. The idea should help create an order or unity . . . variations in music are like repetitions of a theme or melody with embellishments in rhythm, tone, harmony, or key – keeping the essential charac-



Bruce Goff: Gutman House, Gulfport, Mississippi



Bruce Goff: Hyde House, Kansas City (1965)

teristics of the original . . . Development is to evolve the possibilities of or to unfold gradually, as as a flower from a bud, by a process of growth. In music it is the working out of rhythmic, melodic, or harmonic changes in the theme . . . In architecture materials and not sounds are orchestrated. Each has its own color, texture, etc. and it makes a great deal of difference which material is doing what, where, and when . . . The end result must be consciously worked for . . . ornamentation consists of a contrast of tone or timbre – a florid passage.

It is easy to read the words 'ornament', 'decoration', and 'design' between the lines. Goff is very knowledgeable concerning the ideas of many modern composers. He is also fond of quoting his favourites: from Aaron Copland 'The fascination and emotional impact of simple rhythms repeated over and over again is quite beyond analysis', and from Claude Debussy 'The whole must add up to a

sum greater than its parts'. There is a joy and optimism in Goff's work, and in his ornamental flourishes one can sense that Goff's architecture is music for the eyes.

Will we return to ornament? Does decoration have a future in architecture? Perhaps. Certainly the 'machine ages' are being called into question. A large body of the populace today is looking at the effects of technology on our lives and our environment. In mass housing densities are lower, space standards are higher, and standards of heating and lighting are better than ever. Yet many estates are unrentable and some (Pruitt-Igoe) are gone. What qualities do these places lack? Can one imagine Gaudi's Casa Mila deserted? Why is Erskine's Byker Estate so popular? Indeed, why the revival of interest in Mackintosh, Wright, Art Nouveau, and Art Deco? Is it nostalgia, or are we trying to bridge a time gap – rediscover something we've lost? For Bruce Goff, as for other architects/artists of the organic movement, the questions are different. The questions are what ornament, what theme, what image? How does it relate to and enhance the total? There are also questions about how it is made – the materials, the craftsmen – and how does it suit the client, embellish his life. There is no reason why architecture cannot look forward to a new age of beauty. The organic architects offer a link in an unbroken chain – Bruce Goff is the bright and sparkly one!

Notes

- 1 Materials used by Goff:
 - coal – sprayed with lanolin
 - waste glass – cullet
 - rope – coiled on ceilings
 - strips of plastic = plastic rain
 - sprayed plastic = cocoon
 - plastic panels for Crystal Chapel
 - dime store ashtrays
 - sequins
 - goose feathers
 - children's marbles – broken
 - Quonset hut ribs
 - oil well rigging – steel framing
 - tin cookie cutters and cake forms
 - tinsel
 - perspex domes from aeroplanes (bombers)
 - fishing net
 - string
 - plywood finished with shoe polish
 - egg cartons
 - paper plates
 - concrete drain pipes
 - ground black glass
- 2 The decorative effects and ornamentation of the Price house may be seen photographically in this issue and are so extensive, complex and multi-layered as to require their own study.

Stephen Mooring: Childhood spent in Racine, Wisconsin, overlooking the Hardy House. Studied architecture at the University of Oklahoma under Herb Greene. Worked for Bruce Goff in Bartesville on Daphne and Rudd projects. Finished architectural education at Arizona State University while working for Paolo Soleri on various projects. Spent most of 1966 working in Finland before settling in London. Joined the Greater London Council Thamesmead group at the start, and was responsible for the design of the third Community Centre. Presently working at the London Borough of Lambeth and tutoring part-time at the Bartlett School, University College London.

David De Long: BRUCE GOFF and the Continuation of the Continuous Present

Bruce Goff has designed more than 400 buildings, each one reflecting his belief that architecture should be shaped in large part by the conditions peculiar to each commission. These conditions include the special needs of the individual client, the character of the site, and the qualities of the proposed materials and structure. The resulting variety confounds some critics who find no thematic structure in Goff's work except for his determination to make each design different and to remain independent from current architectural fashions. But underlying themes do exist, as a careful study of Goff's work makes apparent. These themes reflect his basic attitudes towards what an ideal environment should be and guide his conception of individual designs.

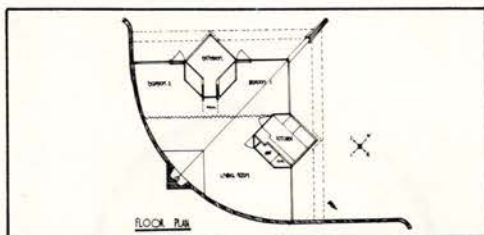
One of the most significant of these themes, one that informs some of his most extraordinary designs and imbues his work with real significance, is his pursuit of what might be termed an indeterminate architecture. It is an architecture without conventional rooms or divisions, with interiors treated as continuous spaces. Simple shapes are avoided or obscured in forming the enclosure so that a building of indeterminate geometry is produced. The sense of boundary between the enclosed volume and its surroundings is kept minimal: large and specially detailed openings, diaphanous structural elements, elaborate gardens which continue into the volume itself, all contribute to the integration of the building with its site. Within the volume, contrasting elements of precise and immediately comprehensible shape are placed like anchors, or stabilisers. These elements are kept independent of the complexly shaped and permeable enclosure. They usually contain services or define areas of specific use, sometimes approximating conventional rooms.

Goff's indeterminate architecture relates to what he first termed 'free architecture' and later described as an architecture of the 'continuous present.' As initially conceived, 'free architecture' meant simply an architecture that avoided conventional geometry. It thus provided the means to the more thoughtful development that would follow.

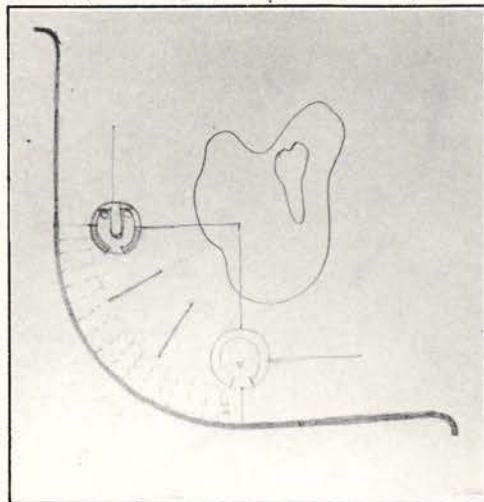
Goff first called for the creation of a 'free architecture' in 1930:

Now since architecture has not yet emancipated itself from the forms of the Stone Age, it has been limited to horizontal, vertical, and circular expression.

It is not my wish that we abandon these forms,



1 Plan, Spencer house project, 1941, Chicago



2 Plan, Quarter-Circle house project, 1943, Oregon
but let us explore the others!

Another drawback to freedom is found in the tools with which the architect works. On a flat surface of pale paper or linen, he uses a T-square for horizontal lines, triangles for verticals, and compass for arcs and circles, and finally pointed pencils and pens for drawing lines. He is not master enough to make these things his slaves, and he unconsciously becomes theirs. And the result is *Linear*.¹

Goff's advocacy of unusual and even free-form shapes was in opposition to the beliefs of Frank Lloyd Wright, his childhood mentor and lifetime friend. By sometimes shunning the basic square, triangular, and circular modules so consistently employed by Wright, Goff eventually brought himself into direct confrontation with his mentor.

Goff's first real exploration of the theme occurred in 1941 with his initial project for the Spencer house, (1). To be located in Chicago, the

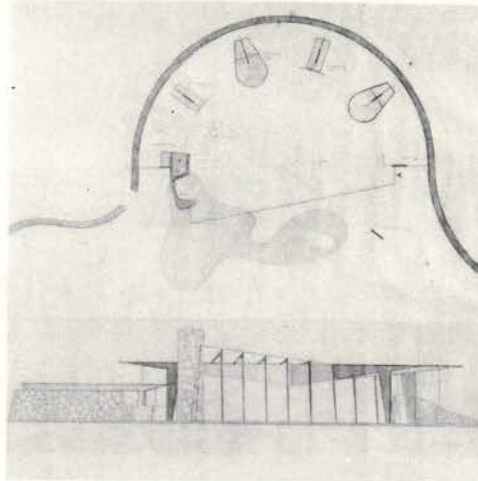
house was conceived as a single, general volume without the sort of precise, articulated geometry usual in his work at that time. The basic shape of the house — essentially a quarter-circle in plan — was obscured by various devices: the curvilinear wall along the back was to extend past the glass walls that it intersected, the curved fascia of the roof described a different pattern than the walls below, the roof was to be separated from the masonry wall by a continuous band of glass. In contrast to this somewhat freely defined space, two precisely articulated cubes, to contain services, were placed at the midpoints of the glass walls. Moveable partitions were proposed to divide the space when desired.

The design was not without parallels. Perhaps most pertinent was Paul Nelson's *Maison Suspendue* project, designed between 1936 and 1938 and published in America in 1938.² It featured rooms of varied geometric shapes suspended within a large enclosure. The suspended rooms were to be connected by ramps. Goff recalls seeing the design when it was first published, and openly acknowledges his debt to Nelson. Goff was also drawn to designs that have since been cited as important to Nelson, notably the *Maison de Verre*, Paris, 1928-32, by Bernard Bijvoet and Pierre Chareau, as well as certain designs by Le Corbusier.³ Other architects were also exploring open-plan concepts, Mies van der Rohe's court house projects and pavilion designs of the 1920s and 1930s, Frederick Kiesler's *Space House* project, published in 1934, and Frank Lloyd Wright's 1938 *Jester house* project come most immediately to mind.⁴ But it was Goff who pursued the concept with the greatest determination, who gave the open-plan concept special character, and who finally succeeded in getting major examples built.

Goff developed the indeterminate theme of the Spencer project from 1943 through 1953, achieving unparalleled results. It was a fertile period in his career, as other designs, reflecting themes of a different nature, also demonstrate. The next two indeterminate designs were closely related to the 1941 Spencer project: the 1943 *Quarter-Circle house* project, (2), for a site in Oregon, was, in fact, almost identical in plan. Circular rather than square units modulated the open volume, screens rather than moveable partitions were provided to divide the space according to various needs, and, most significantly, a free-form pool was proposed at the point where the two glass walls met. Extending partly within the house, this pool softened the geometry at its

sharpest point. These same elements, with certain modifications, also appear in the 1945 Cheetham house project, (3), for a site near San Francisco. But the Cheetham design is more complex. As presented, the masonry wall describes a more irregular area than in the earlier two projects, and the planes of glass which complete the enclosure in plan are angled across the front in a way which minimises any sense of regular geometry. Again a free-form pool softens the planar quality of the glass walls.

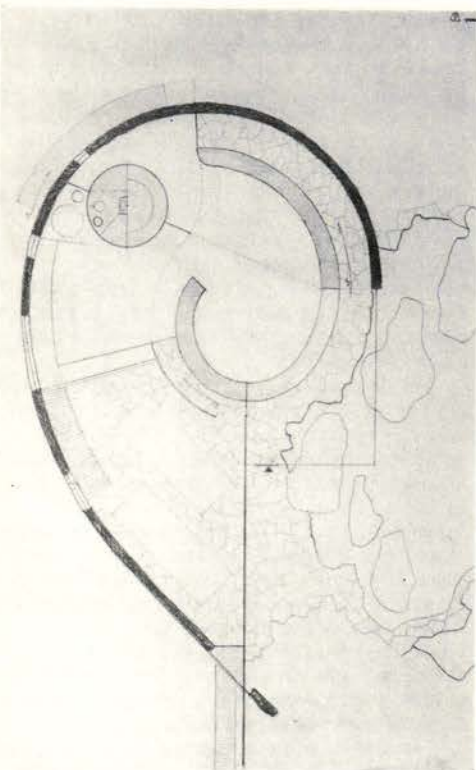
Curvilinear masonry walls and pools were featured in several indeterminate designs to follow. In these next designs a fuller assimilation of parts was achieved, and the whole concept was made more three-dimensional through effective manipulation of floor planes. This is apparent in the Gillis house project, for Bend, Oregon, designed in 1945, (4-8). In the Gillis design, the enclosing masonry wall is changed in two basic ways: it returns upon itself in plan to suggest a spiral, and it is treated as



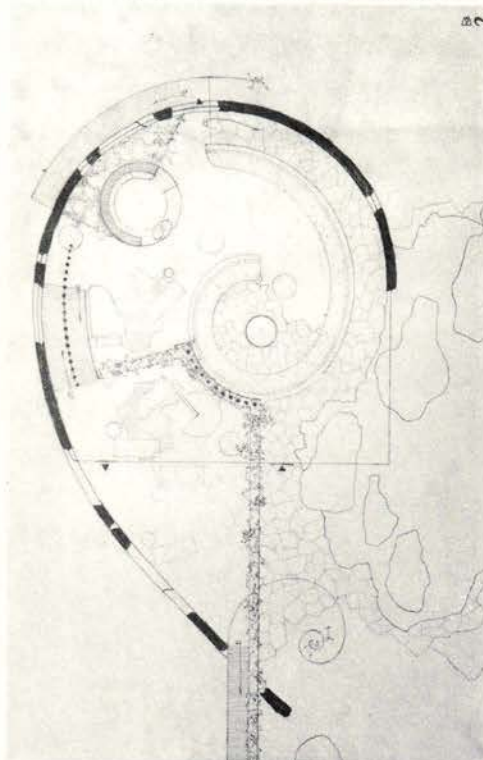
3 Cheetham project, 1945, Marin Co, California

a permeable suspended from a concrete beam so that it would seem to hover above rather than press upon the interior volume. This beam was designed to be supported by only three columns placed at the centre of the three major islands below; Goff sought a full unity of interior space, one unimpeded by heavy structural elements.

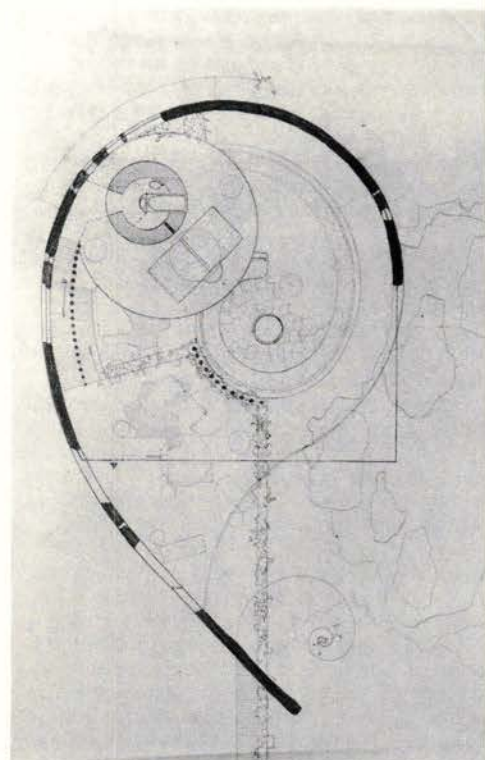
Material shortages of the immediate post-war period prevented the realisation of the Leidig design, (9-11), but the complete and clearly detailed working drawings prove how real the scheme was. Conditions were changed by 1947 when Goff designed the Ledbetter house, (12-16), and this, the next in the series of indeterminate designs, was actually built.⁵ Its undulating masonry walls, angled planes of glass, suspended roof, and interior pool recall aspects of the Leidig project. The whole is reduced in scale from that project and somewhat tempered by the starker reality of the conservative Oklahoma setting, but a similar kind of free interior volume was achieved. Spaces flow



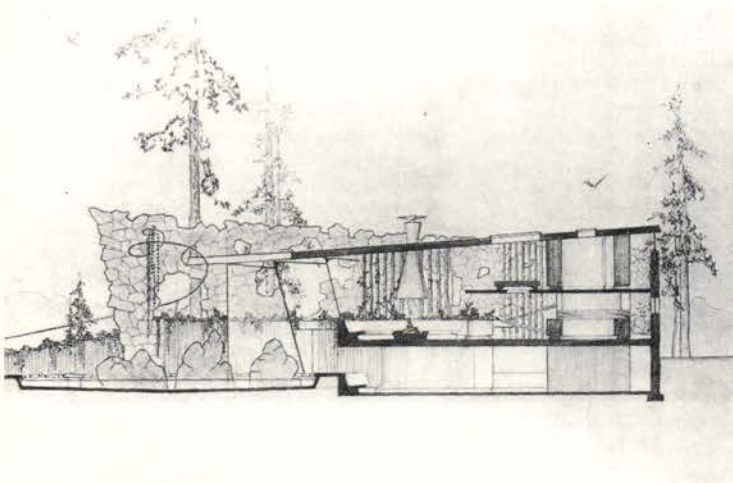
4 Plan of lower levels, Gillis house project, 1945, Bend, Oregon



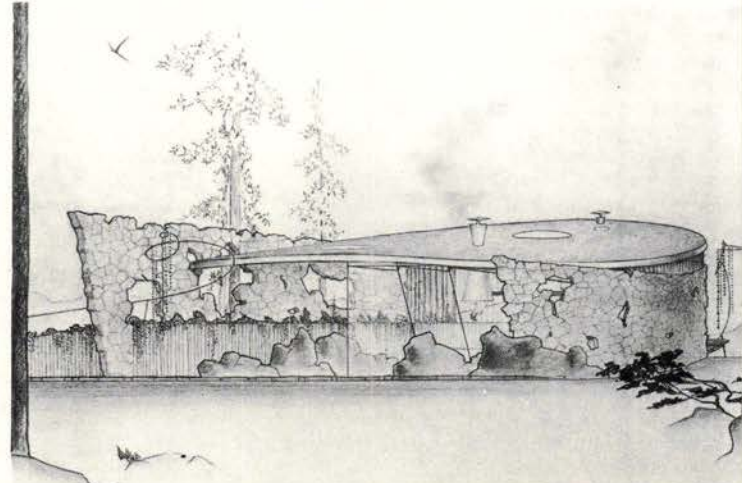
5 Plan of intermediate levels



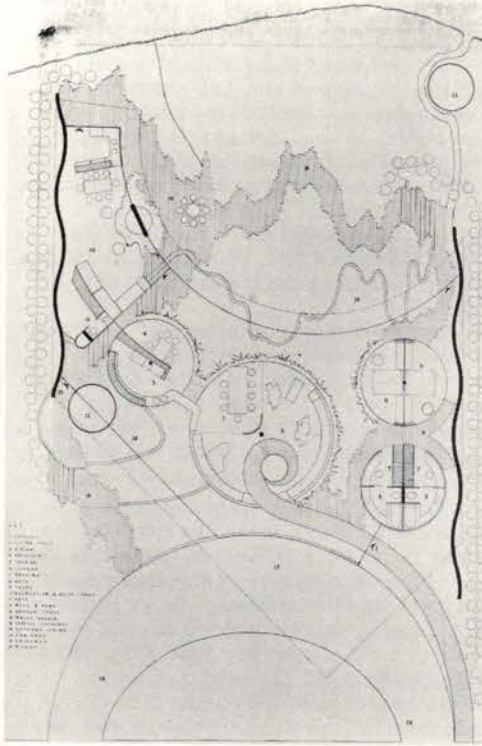
6 Plan of upper levels



7 Section

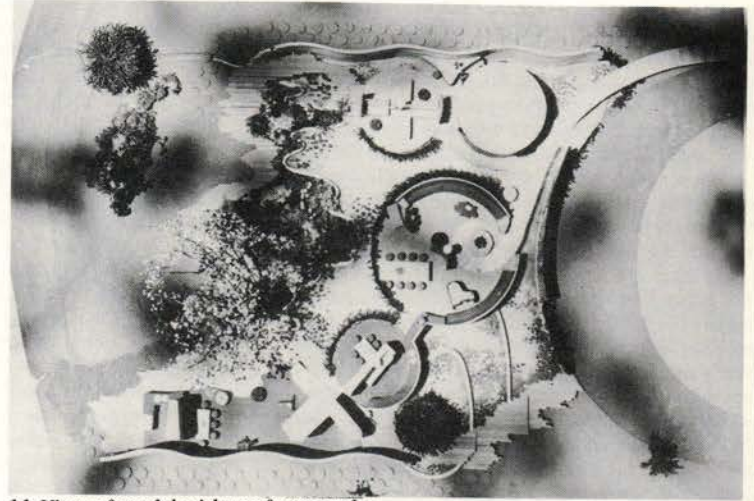


8 Elevation

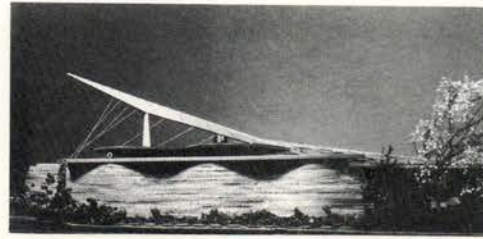


9 Plan, Leidig house project, 1946, Hayward, California

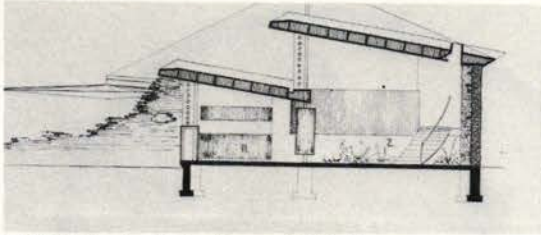
- Key:**
- 1: entrance
 - 2: living space
 - 3: dining
 - 4: breakfast
 - 5: cooking
 - 6: sleeping
 - 7: dressing
 - 8: bath
 - 9: study
 - 10: guest space
 - 11: bath
 - 12: well and pump
 - 13: garden tools
 - 14: water garden
 - 15: services entry
 - 16: outdoor dining
 - 17: carport
 - 18: driveway
 - 19: walkway



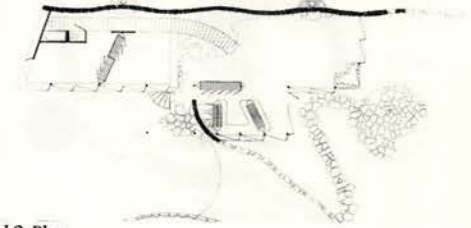
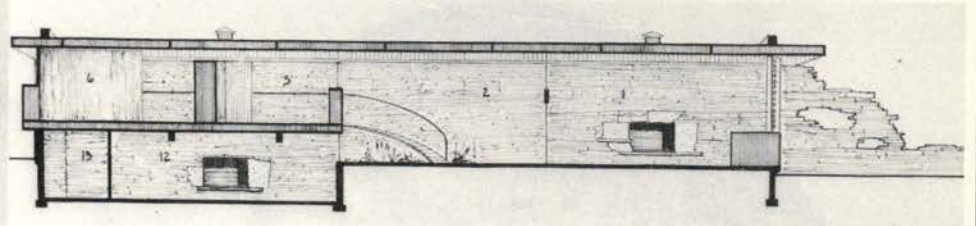
11 View of model with roof removed



10 View of model



13 Sections Ledbetter house, 1947, Norman



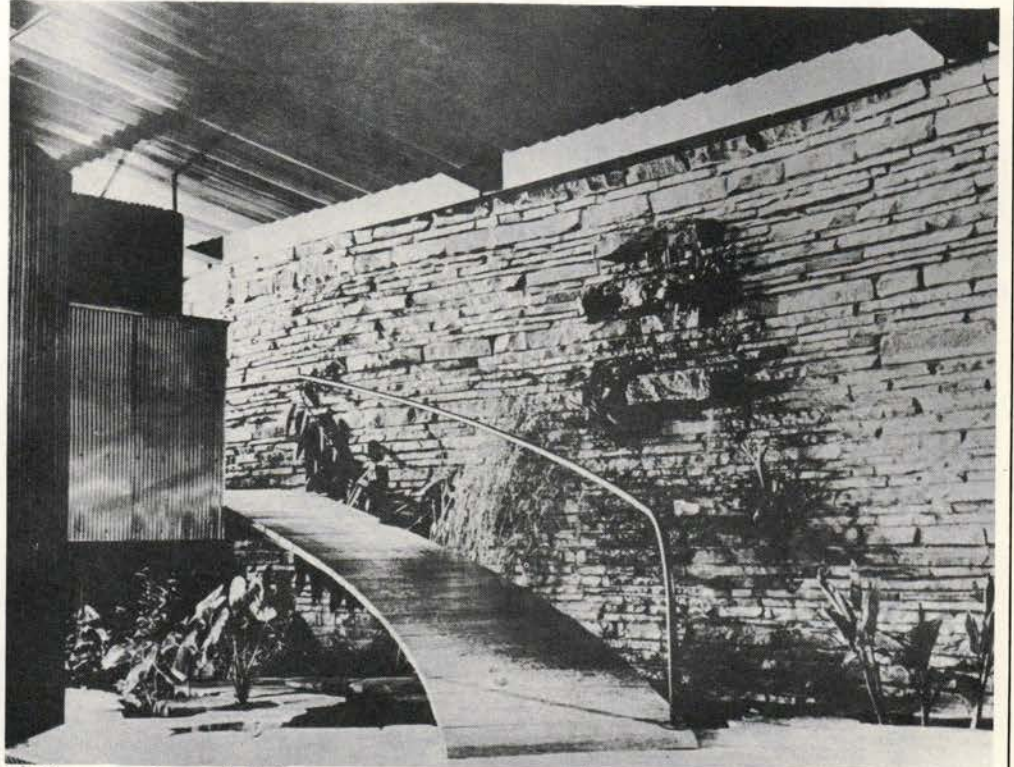
12 Plan



14 View towards entrance



16 View towards terrace



15 View towards ramp in living area

easily together: ramps rather than stairs connect different levels, partitions stop short of the suspended roof. The roof itself is designed with a continuous skylight along the masonry wall at the back of the house, providing a kind of spatial release which is reinforced by a slot below between wall and balcony. Major interior areas are divided by free-standing service units, their simple geometry contrasting with the involved forms of the enclosing structure. Suspended discs roofing outdoor terraces also provide a note of contrast.

If there is a sense of compromise present in the Ledbetter house, there is none at all in the Bavinger house, (17-19), the next major design in the series and the most prominent example to be built. It is justly one of Goff's most famous works. It combines the spiral of the Gillis project and the water garden of the Leidig project, but with added features. The roof as well as room-like elements are suspended from a mast placed at the centre of a logarithmically-spiralled wall. The spiral is made of stone, and increases in height as it curves in towards the centre. A rough profile and irregular openings impart a natural, almost ruinous impression. A continuous skylight along the spiral's perimeter separates the wall from the roof, providing, as in the Ledbetter house, spatial release.

Most of the bottom level of the house was given over to pools and planting, and above this exotic garden are the five suspended circular platforms that take the place of conventional rooms.⁶ These platforms, connected by stairs, were placed in a

regular spiral sequence, each one three feet higher than the one below. Because these platforms describe a concentric rather than logarithmic spiral, the relationship between each platform and the outer wall is different, providing an added dimension of spatial richness.

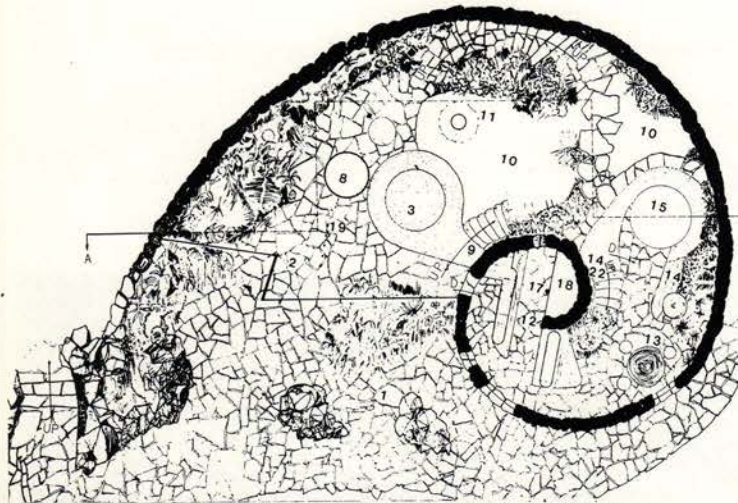
With the completion of the Bavinger house, Goff realised a fully-developed vision of his indeterminate architecture. It is a revolutionary way of making a house, providing an interior remarkably free of static limitations, a space that suggests and even encourages different patterns of family use. Whatever ties Goff's first explorations of the theme may have had with designs by his contemporaries, the actual achievement was his, as was the personal vocabulary of shapes and materials.

The Bavinger house illustrates what Goff calls the continuous present, a quality synonymous with the theme of indeterminacy. Goff first used the term in 1948 to explain an approach to architectural design.⁷ He described the continuous present as something resulting from an unconventional system of composition, one without specific beginning or end and without the usual professional hierarchies. It denotes a composition that can only be comprehended with time, and never understood in one glance. The Bavinger house meets these criteria. And because it follows no simple pattern of composition and provides no set patterns for use or movement, it presents a constantly changing series of images to the inhabitant. These features enlarge its meaning in Goff's mind, for he feels the

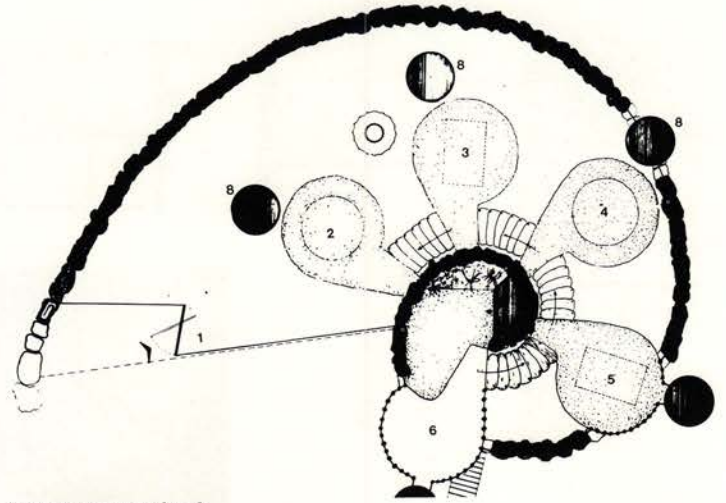
qualities of changeability and the indefinite partly reflect our own time and merit architectural expression.

Both the Ledbetter and Bavinger houses attracted considerable attention when built, and both continue to attract curious visitors. They were featured in popular magazines such as *Life* and *Coronet* which exaggerated the Hollywood-like qualities of the designs. For their time, they seemed to embody a popular image of a dream house of the future. The designs struck most established architects as unacademic, almost primitive flights of fancy. But they brought additional clients to Goff.

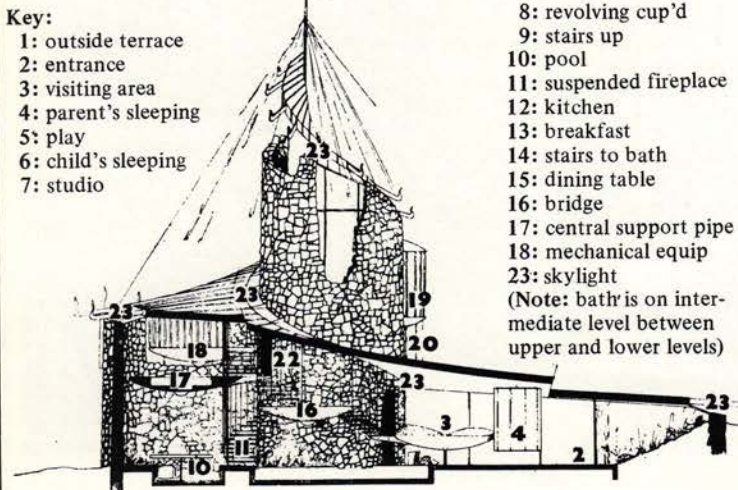
Three other designs of the period – all destined to remain projects – show Goff's continued exploration of the theme. In the first design for the Blakely house, 1950, (20-23), for Dallas, he proposed an indeterminate volume to be formed from intersecting cylinders. Within this volume, suspended circular and mandala-shaped units provided points of focus without mitigating the richness of the whole. In the first design for the Garvey house, 1953, for Urbana, Illinois, (24-28), a translucent enclosure of wire mesh and plastic was proposed. Circular in plan with a trumpet-shaped centre, this enclosure was designed to contain a series of spherical rooms. These were to be suspended at different heights within the volume and connected by a helical tube. Plastic bubbles on each sphere would have allowed views



17 Plan of lower levels, Bavinger house, 1950, Norman, Oklahoma

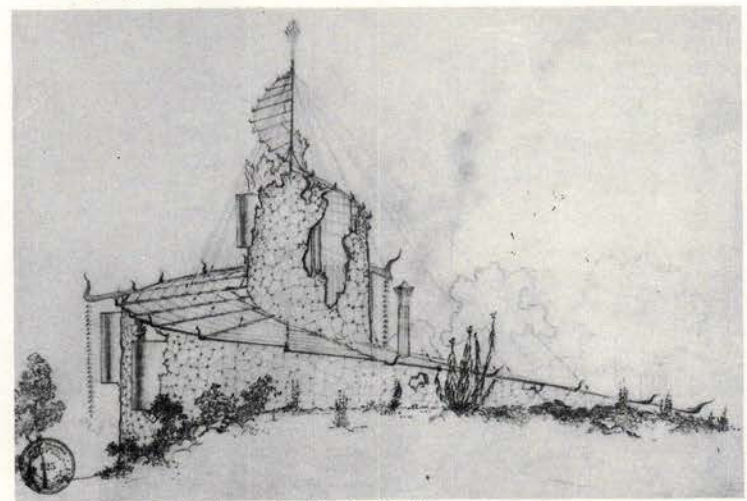


18 Plan of upper levels

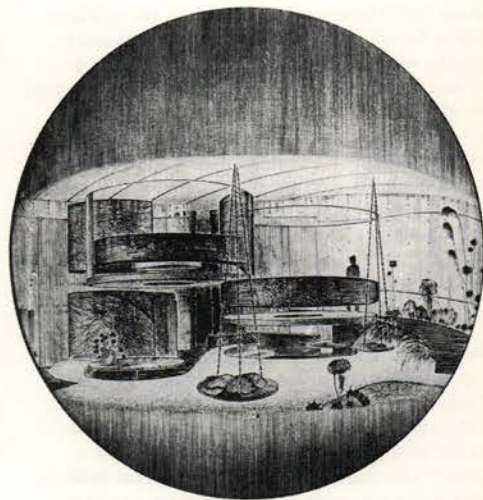
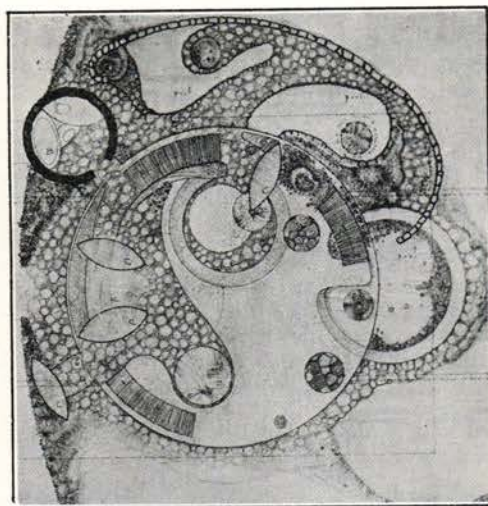
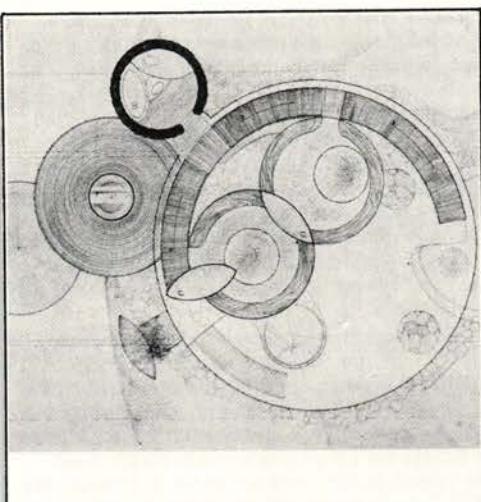


19 Section

- Key:
- 1: outside terrace
 - 2: entrance
 - 3: visiting area
 - 4: parent's sleeping
 - 5: play
 - 6: child's sleeping
 - 7: studio
 - 8: revolving cup'd
 - 9: stairs up
 - 10: pool
 - 11: suspended fireplace
 - 12: kitchen
 - 13: breakfast
 - 14: stairs to bath
 - 15: dining table
 - 16: bridge
 - 17: central support pipe
 - 18: mechanical equip
 - 23: skylight
- (Note: bath is on intermediate level between upper and lower levels)



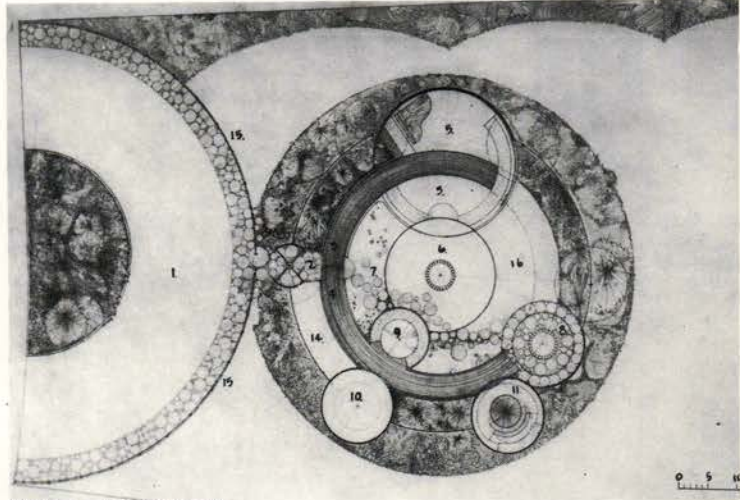
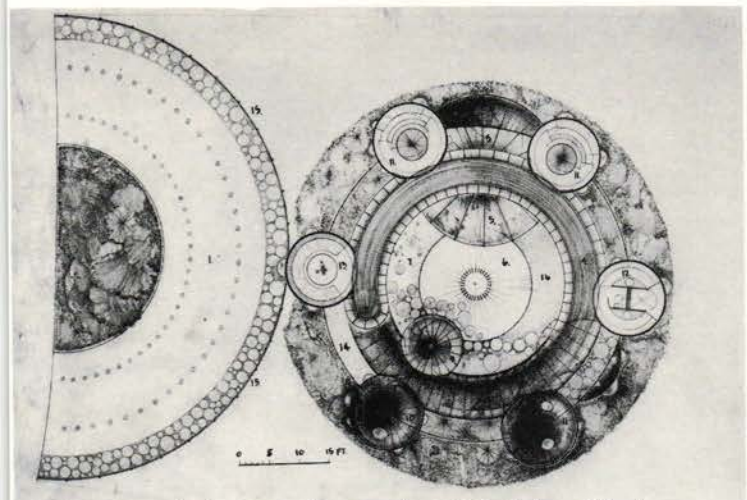
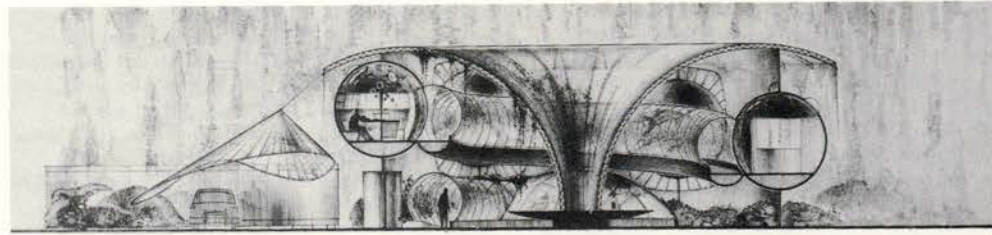
19a Elevation; preliminary drawing by Goff



20 Blakely house project, 1950, Dallas

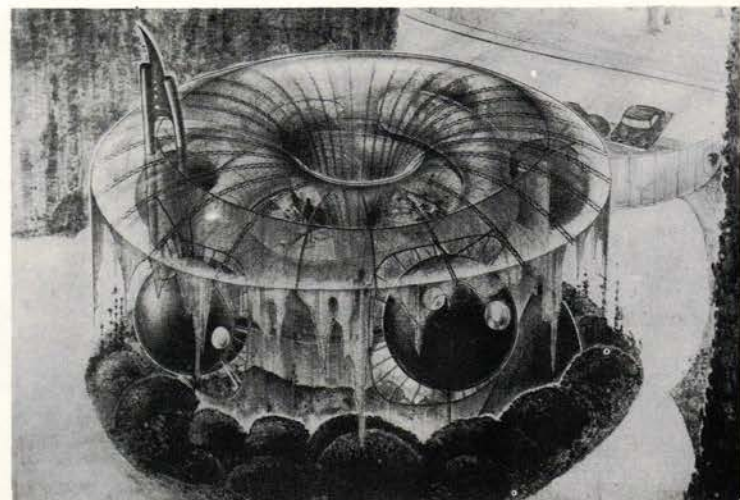
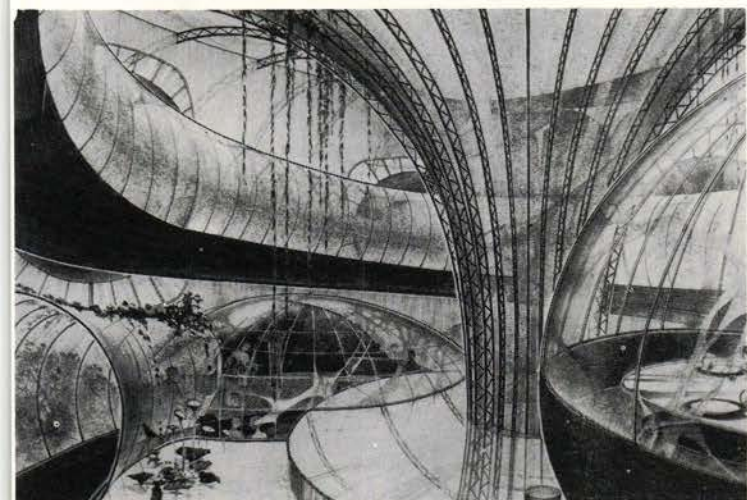
23 Interior perspective

- Key:
- 1: driveway
 - 2: revolving entrance doors
 - 3: ramp-tube dn
 - 4: ramp-tube up
 - 5: music room
 - 6: pool
 - 7: water garden
 - 8: barbecue
 - 9: dining
 - 10: kitchen
 - 11: bedroom
 - 12: play pit (for children)
 - 13: interior garden
 - 14: plastic fence
 - 15: bathroom
 - 16: study



24 Plan of lower levels, Garvey house project, 1952, Urbana, Illinois

25 Plan of upper levels



28 Exterior perspective from above

across the interior to other parts of the house as well as to the outside. It was an indeterminate scheme with greater provisions for individual privacy than in earlier examples. In both instances the clients were enthusiastic and prepared to proceed with construction. The Blakely project was ultimately halted by the protests of local Dallas residents, and the Garvey project was redesigned when Goff grew uneasy over the plastic manufacturer's refusal to guarantee his product.

The third indeterminate design to follow the Bavinger house was halted more dramatically. It was the first proposal for the Price studio, designed in 1953 for a site in Bartlesville Oklahoma, (29-32). Here was an indeterminate essay of remarkable complexity, to be formed entirely from angled planes rather than curvilinear elements. Ceilings, walls, even large areas of the floors were to be angled so that all reference to conventional geometry would be avoided. Like earlier indeterminate designs, most of the furniture was conceived as part of the composition and it thus enhanced the abstract complexities of space.

The client was pleased, a contractor submitted a satisfactory bid, and construction was about to begin when Frank Lloyd Wright happened by. He came to check on his own work for other members of the Price family, commissions which Goff had encouraged the family to give. Wright was naturally curious to see Goff's designs for the Price studio, and devious enough to inspect them without Goff being present. Wright's reaction was

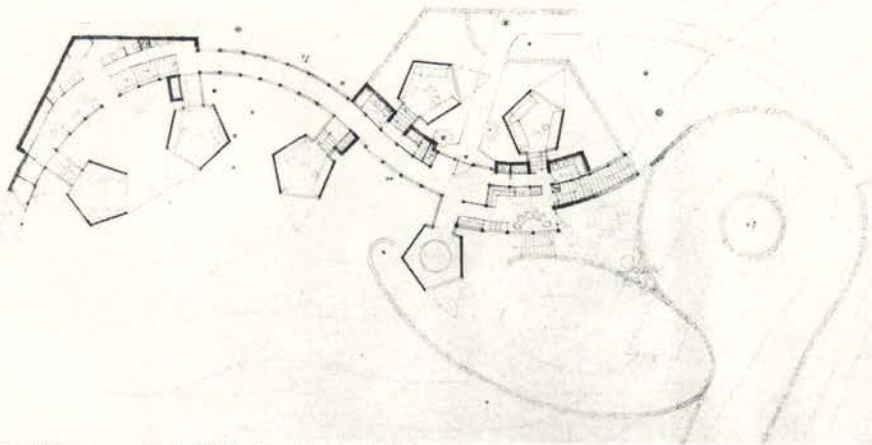
negative: he perceived no underlying system of design, no sense of controlling geometric module. Previously close to Goff and supportive of his work, he felt in this case that Goff had gone too far. According to Goff he managed to halt the project, although after the initial furore had passed Joe Price asked Goff to prepare a second design.

Goff later accepted Wright's offer to renew their friendship, and Wright, it seems, never again questioned Goff's right to produce distinctly non-Wrightian schemes. But the incident may have had lasting effects on Goff, for he did not continue his intense exploration of an indeterminate architecture until the early 1970s. Instead he incorporated aspects of indeterminacy within other, more determinate designs. Thus the second design for the Price studio, in 1956, follows a regular triangular module, but retains such features as angled walls and obscured boundaries.

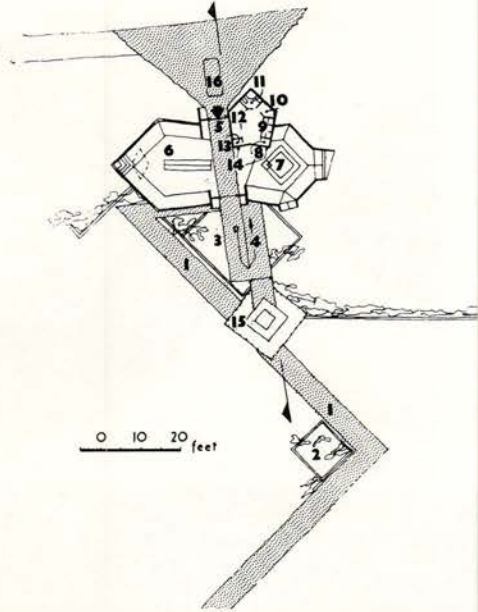
There were other designs between 1953 and 1971 which showed a continued fascination with aspects of the indeterminate theme. One example is the second design for the Rudd house, 1959, near San Francisco, (33, 34). There is no major indeterminate volume in this design, but instead an undulating wall-like element that widens to contain living spaces. As designed, these spaces assume aspects of the indeterminate theme through a loose definition of geometric shape and through the rough, imprecise nature of stone construction. This element defines the edge of a garden and, in a sense, transfers the quality of architectural indeter-

minacy to the volume of the garden itself. Seven pentagonal volumes are shown within this garden, each volume precisely articulated and meant to be made of metal. These stand in sharp contrast to the intended rough texture and general form of the wall element. Each pentagonal unit was to be linked to the wall by a connecting bridge and each would contain a room for private retreat, analogous to the spheres of the Garvey project. Also like the Garvey project, these precisely shaped units offer a quality of exact geometric definition in marked contrast to the other, more diffuse elements of the composition.

Goff began to re-examine the indeterminate theme more forcefully in the early 1970s. The results are positive, verifying the significant architectural potential of the concept and affirming Goff's continued skill. In 1971 he initiated a series of designs for a large estate on the Pacific coast; the project remains current, and Goff honours the client's request to withhold publication of the design drawings. Included in the complex of buildings which Goff plans for the estate is a large structure with an interior volume more than 150 feet high and over 150 feet in diameter. Its walls are to be made from curvilinear shapes of translucent plastic supported by a lightweight metal frame. Within the volume, elements equipped to move both horizontally and vertically will take the place of conventional rooms. The design relates to the Bavinger and Garvey designs, but with the added potential of changeable relationships



33 Plan, Rudd house project, 1959, San Mateo, California

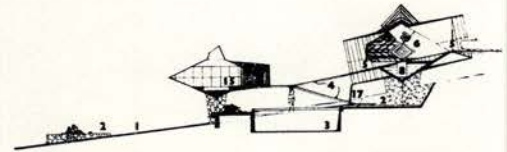


Plan. Key: 1 ramp walk 2 lily pool 3 swimming pool 4 ramp 5 entrance 6 workroom studio 7 lounge 8 closet 9 kitchen 10 dressing room 11 bathroom 12 storage 13 projection equipment 14 exhibition wall 15 screened porch 16 car port



34 Elevation

29 Plan, Price studio project, 1953, Bartlesville

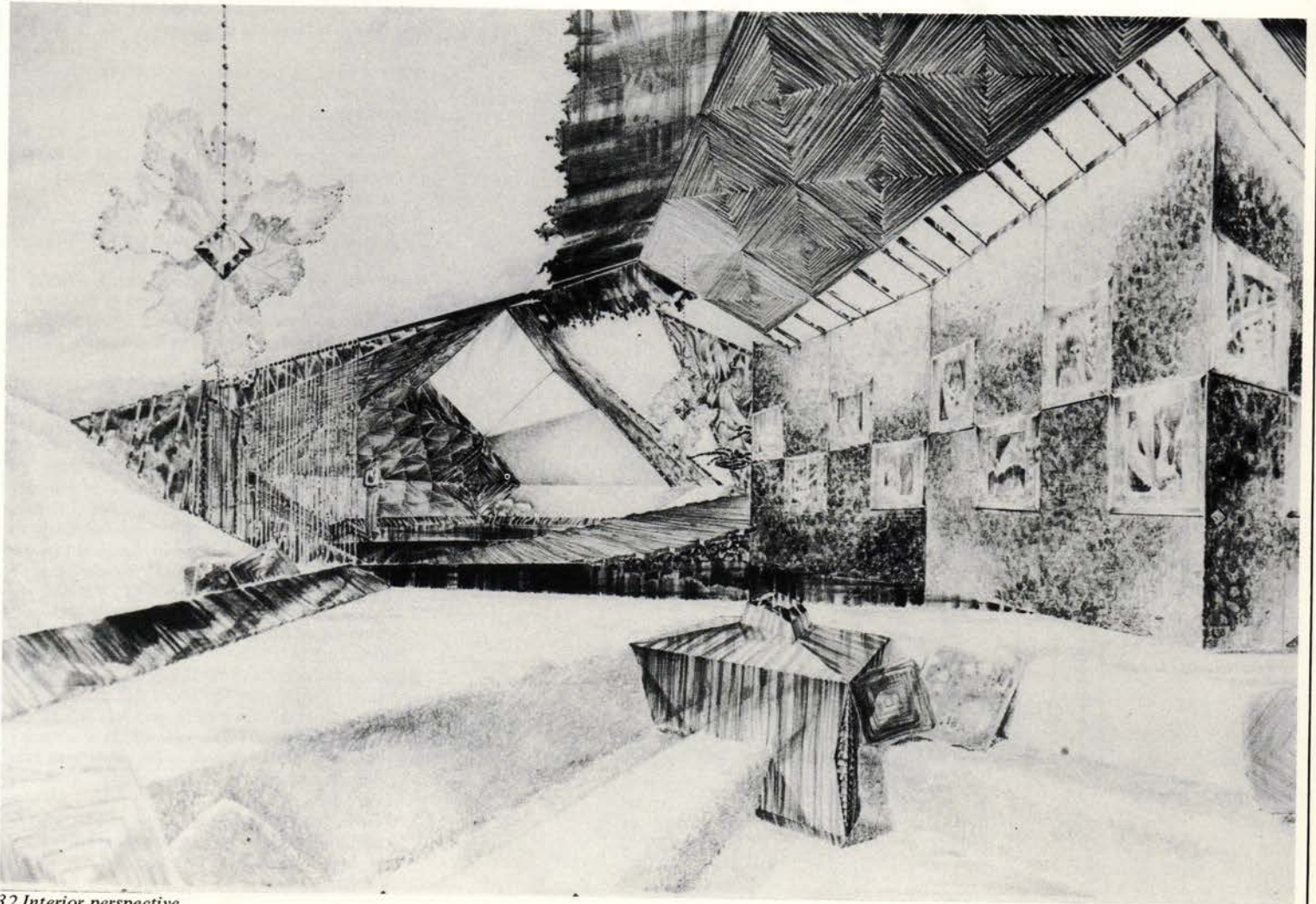


Section. Key: 1 ramp walk 2 lily pool 3 swimming pool 4 ramp 5 entrance 6 workroom studio 8 closet 15 screened porch 16 car port 17 waterfall (supply for pools)

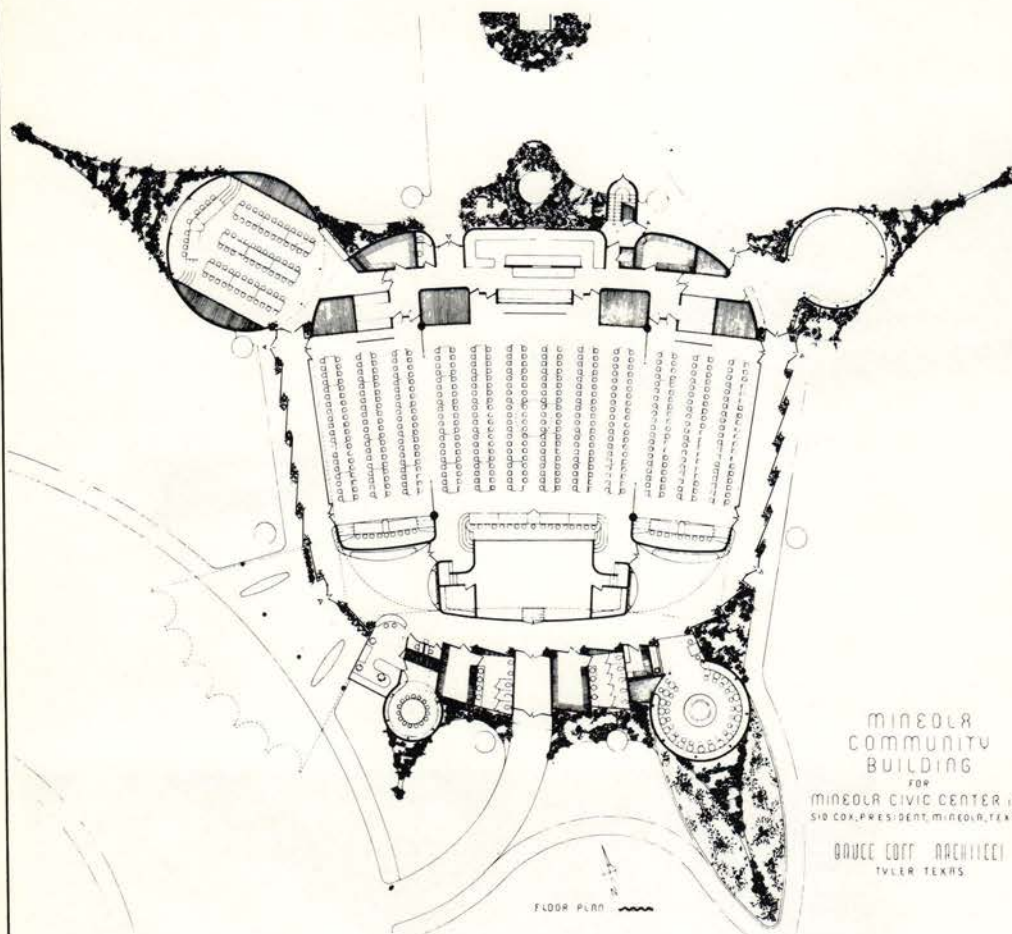
30 Section



31 Exterior perspective

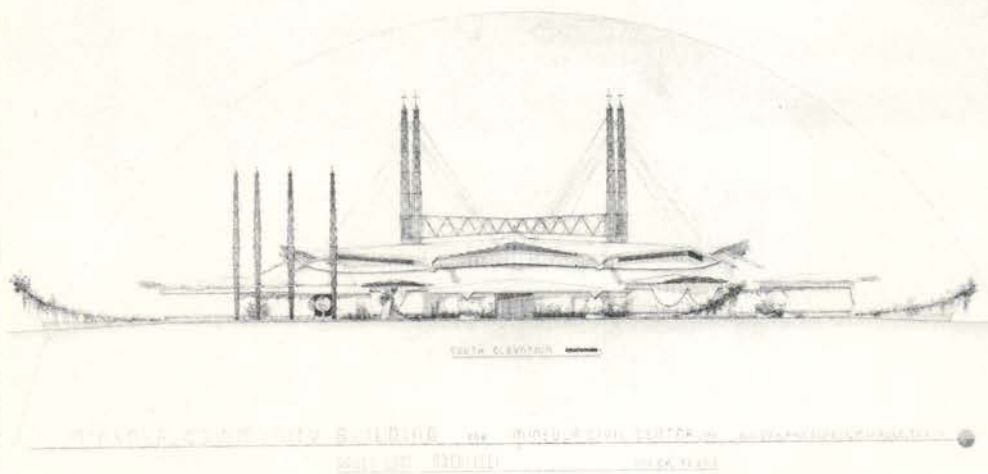


32 Interior perspective



MINNEOLA
COMMUNITY
BUILDING
FOR
MINNEOLA CIVIC CENTER INC
510 COX, PRESIDENT, MINNEOLA, TEXAS
BRUCE GOFF ARCHITECT
TYLER, TEXAS

35 Plan, Minneola Community Center, Minneola, Texas



36 Elevation

In 1974, Goff designed a building less fantastic than the Pacific coast estate, but one which suggested the applicability of the indeterminate theme to non-residential use. The Minneola Community Center, (36,37), a project for Minneola, Texas, features a large, general volume freely defined by curvilinear walls. These are kept visually free from the suspended roofs. Free-standing units of more precise geometric form divide the space; they function as containers for the various services and support facilities such as a multi-purpose hall would require.

Finally, for his own Texas house on a lakeside site, Goff envisions a structure built partly over the surface of the water. The dynamic aspect of the Pacific coast project would be equalled, for moveable elements would take the place of rooms, sometimes suspended above and sometimes floating directly on the water. The design is in its preliminary stages.

These recent designs, as so many of Goff's proposals, remain projects. But they are not unrealisable schemes, and thus stand apart from such fantasies as those sketched by the German Expressionists. Goff's work often matches and even surpasses them for sheer exuberance. He has the ability to translate his images into real buildings, buildings that work and that please their owners. Yet the intensely personal, sometimes bizarre details and materials of his buildings often impair serious consideration of his work. His work deserves this consideration. For it is work of consequence, and much of it — such as the series of indeterminate designs — suggests a completely new way of conceiving buildings.

Notes

- 1 Bruce Goff, 'A Declaration of Independence', *Western Architect*, Vol 39, 1/1930, pp17-18.
- 2 'New Use of Space Determines Design of Proposed House', *Architectural Record*, Vol 84, 12/1938, pp37-41. This article is well illustrated with photographs of the model and plans, elevations, and a typical section.
- 3 Judith Applegate, 'Paul Nelson: An Interview', *Perspecta* (The Yale Architectural Journal), Vol 13/14 (1971), pp74-129, esp p102.
- 4 Mies van der Rohe's project for a brick country house, 1922; his German pavilion at the International Exposition, Barcelona, 1929; and his house in the Berlin Building Exposition, 1931, were published in *Modern Architecture: International Exhibition*, catalogue of the exhibition held at the Museum of Modern Art, New York, February 10 to March 23, 1932; New York: Plandome Press, 1932, pp121, 124-125. The Barcelona and Berlin designs were also published in George Nelson, 'Architects of Europe Today; Van der Rohe, Germany', *Pencil Points*, Vol 16, 9/1935, pp453-460. Frederick Kiesler's Space House was published in 'Space House by Frederick J Kiesler, Architect', *Architectural Record*, Vol 75, 1/1934, pp44-61. A model of Frank Lloyd Wright's Ralph Jester project was exhibited at the Museum of Modern Art in New York in 1940.
- 5 Some articles refer to the design as the Taylor house; shortly after the house was completed, the Ledbetters sold it to Mr and Mrs Joseph R Taylor who, in 1976, were still in residence.
- 6 In recent years, large areas of the pools have been converted to useable floors to provide additional living space.
- 7 'Pride of the Prairie: A high priest of individualism is designing a strikingly regional idiom for his grass roots clients', *Architectural Forum*, Vol 88, 3/1948, pp94-101, 190.

Jeffrey Cook: BRUCE GOFF'S Influence on American Architecture

Goff, as a person, has always been accommodating. But his architecture has inspired not infrequently both contempt and admonition, at least in the land of his birth. Only now in the recent fashionable rush to upset the previously fashionable heroes of the age, has it become compulsory to look again at the century; to discover who, or what, has been missed. Suddenly Goff's architecture is the benefactor of such a reappraisal; as Wright had once promised him: 'If you live long enough, they'll get around to you.'

The current interest in Bruce Goff and his work (as evidenced by this issue of *AD*, my book, and David De Long's (was anticipated some 20 years ago by *AD* (5/1957) which as 'a special number on the architecture of Bruce Goff', has long been the most complete source on his work available. In Ben Allan Park's introductory article to that issue of *AD* is one of the few serious published efforts to come to grips with Goff's work. Some of his conclusions over 20 years ago still have value:

Goff's only innovation is to make such an

1 Barby II Residence, Tucson, Arizona, 1974-76, Bruce Goff: Overlooking kitchen and terraced living space. Goff's most substantial influence comes in the transformed lives of satisfied clients, who are housed in stimulating retreats of quiet exuberance. Here, Celestine Barby is being interviewed in her new home in the desert by Jeffrey Cook, for inclusion in his book, 'The Architecture of Bruce Goff'. (Photo: Neil A Miller)

arbitrary choice, not once, or once every decade, but separately for each separate building. His architecture thus becomes the free solution of individual problems, and not the vehicle of fashion or a medium for expressing his own personality.

Such an appraisal emphasizes Goff's most critical influence — that of his clients. More so than nearly any other architect, clients are enveloped in a Goff building in such unique and evolutionary ways, as to transform their lives. Of course, Goff's clients suffer all the perils and anxieties of any architect's clients. Probably more; for Goff's distinctive designs demand more than most from objective contractors and conscientious craftsmanship. But, after the dust has settled, Goff's clients begin a life of quiet exuberance that can only be destroyed by the intrusions on their privacy by itinerant Goff admirers. Those client satisfactions come not from a tight fit, but from a bold architectural expression of a loose fit. Wright had in 1940 described his own houses as being transitional with 'sufficient reflex to accommodate inevitable organic change'. Goff's 'organic quality' is not evident in his sometimes explosive but committed elevations. It is revealed in the plans.

It is also revealed in how clients live in Goff houses. Unlike Wright owners, who were irregularly hassled by the Master's appearance when he would rearrange the furniture and give explicit instructions on restoring interior decorum to his first

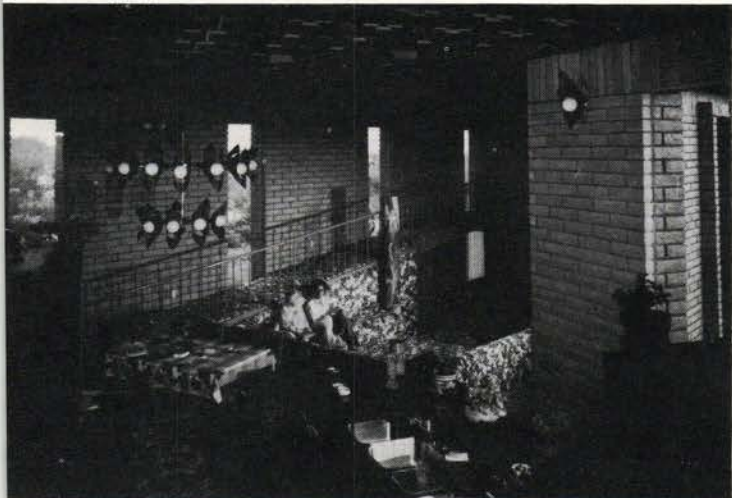
vision, Goff's owners continue and complete what the architect began.

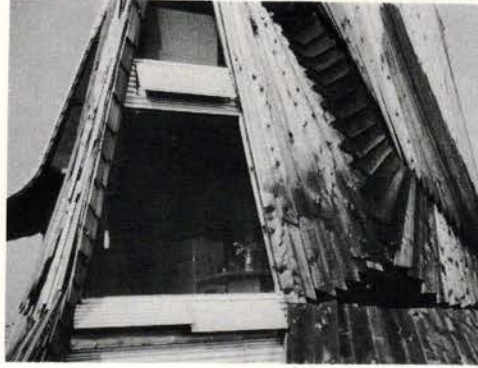
A good example is Celestine Barby, a two-times Goff client. Her first house at Beaver, Oklahoma of 1963, was interesting and useful, but from the outside at least it was hardly distinctive. The plan was crisply simple. Mrs Barby was enthusiastic about recommending Goff to others, which resulted in another Goff house in Beaver — The Dace House of 1964.

When Mrs Barby had an opportunity to build again, she was determined to have Goff as her architect and to be a better client. The result is the Tucson Barby house, (1), completed in 1976, in the foothills overlooking that Arizona city. The revelation comes in the transformation of the house in the year and a half since she has moved in; a succession of the visits has revealed the softening of settling.

Goff's characteristic response to the innocent question of what style his houses are, might be, 'client style'. In 1955, when an insurance salesman named Comer of Dewey, Oklahoma near Bartlesville, approached Goff about designing a house, he gave the story, 'I don't like modern architecture! Someone told me that's the only kind you do. But they

2 Barby II Residence, Tucson, Arizona, 1974-76, Bruce Goff: View from south-east. Goff's houses often sit on ordinary sites in unassuming locations. Their dignity has brought architecture to some of the most unlikely spots of the USA. (Photo: Neil A Miller)





10 Collage/Painting. Lack of architectural commissions has encouraged Herb Greene to develop some of his theoretical concepts about imagery through pictorial media. Juxtaposed memorable photographs are here merged with emotive painted waves.



7 Herb Greene's own House: South-west corner. The weather exposed sheathing is handled like the feathers on a bird or the scales on a fish – as surface protection for the thickness of thermal wall behind. They are free to develop emotive patterns derived both from their own nature and from their evocative potential in recall from the sense memory of learned and felt images. (Photo: Jeffrey Cook)

De Long has, nevertheless provided the most complete and organised data on Goff.

To review the work of Goff's students at the University of Oklahoma in Norman from the years 1947 to 1955 when Goff was the Head of the School of Architecture there, one must talk to Goff's students and follow their successes since those exhilarating days. One realises that Goff was not the only benefactor of an educational zenith that has yet to be approached by another American school of architecture. After the impact of Goff on the school was published by *Architectural Forum* (3/1948), enthusiastic students applied from throughout the US and from abroad. During that period, Goff himself became listed in *Who's Who In America* and his school became regarded as the most distinctive on the continent. But when Goff left because of pressures, the chemistry was gone and his team of teachers gradually dispersed. The school retreated into anonymity.

The geographic location of Oklahoma in the heartland of the continent must be noted. It is the furthest distance from either coast. It has been this heartland that has provided not only all Goff's commissions, but also all of his apprentices. Until the past few years, since Goff's appearances have become fashionable at East Coast schools, it was only at the schools of the midwest and southwest that he was periodically invited to speak. But then those are the places where some continuous beliefs in the 'organic' approach to architectural design has persisted. The continuity of that tradition as an academic transplant of the Prairie School is one of the most stable, if understated, reservoirs of the many architectural schools away from the coasts.

At the University of Oklahoma, a review of the curricula and course contents of the Goff years at the school demonstrates some of the basis for the school's success under Goff's leadership. For instance, Goff's lecture class on the history of modern architecture was organised in a conventional way, beginning with the work of Ledoux. And although one-third of the 47 lectures given in the spring class of 1954 were devoted to the works of Wright and Sullivan, the materials also included examples from the USSR, Japan, and South America. Included in the three lectures on German subjects were the



3 Herb Greene's own House, 1961: Plan, ground floor. The elementary simplicity of the plan of Herb Greene's house for his own family is similar to Goff's planning processes. Both belie the richness of their three-dimensional development which is the visible part of their designs.

4 Herb Greene's own House: View from the south-east. The automobile is the only means of connection between this rural house and the rest of the world. The carport focuses on the only door into the house; its roof sweeps up to define the two-storey entrance hall and stair up to roof-top viewing belvedere. (Photo: Jeffrey Cook)

6 Herb Greene's own House: East window. The choice of building materials and even their pragmatic detailing reflects the ethos of rural Oklahoma. Corrugated metal and unpainted wood are the imagery appropriate to the place. (Photo: Jeffrey Cook)

9 Herb Greene's own House: Upstairs lounge. The warmth and charm of the wood-shingled interior is almost the opposite of the exterior that uses the same materials for quite different effect. Wall-to-wall carpet over thick padding rolls up to form a giant window seat whose oculus overlooks the prairie. The use of furniture is minimised. (Photo: Jeffrey Cook)

told me you'd do me a good house – and that's the important thing'. The result was an elegantly simple house built on a tight budget in 'Comer' style.

Thus Goff has brought to a series of unlikely architectural clients, most with modest means, a home that could have been not even imagined by anyone else. This experience with livable art forms has brought architecture to some of the most unlikely places in the US, (2). They are not monuments in the conventional sense, but rather domestically they crouch and hover, ramble or just plain sit in the most modest settings. (Presumably Goff is unarmed with concepts of settlements or with the theories of urban form. But he has provided the most poignant examples of how to build on rural and suburban sites.)

In cataloguing his prodigious production, surely the most ambitious and thorough analysis of 'The Architecture of Bruce Goff' is the PhD dissertation of that name completed at Columbia University by David De Long in 1976, and published by Garland in 1977. Accompanying it is a volume of minuscule illustrations. Although its basic research content and its presentation will appeal mostly to scholars,

works of Peter Behrens, Hans Poelzig, Fritz Höger, Dominikus Böhm, Wilhelm Riphahn, Bruno and Max Taut, Hans Scharoun, Fritz Schumacher, Paul Bonatz, Hans and Wassili Luckhardt, Max Berg, Otto Bartning, and Walter Gropius. Goff's own freshness has always been informed. And while Goff has philosophically expressed a revulsion of education where 'students are generally considered as receptacles in which to pour prefabricated education rather than persons to bring something out of', it would be easy to mistake his approach. Goff went well beyond arm waving. His 'organic' approach to education did include highly structured and well informed exposures of substantial academic areas. Although Goff claimed 'to relate our work to potentials rather than accomplishments', it was indeed a well balanced intelligence that was part of the favourable climate and atmosphere he believed necessary. Perhaps the most telling revelation was a student's comment: 'The most important thing he's done for us is to make architecture fun'. ('Pride of the Prairie', p98, *Architectural Forum*, 3/1948.)

Surely, the most exceptionally successful protégé of that period is Herb Greene, who graduated from Norman in 1952 and who then apprenticed in California and Texas before returning to the University of Oklahoma to teach. But by then Goff had already left, and as the glow dimmed Greene found his own way, as best exemplified in his own house at Norman, completed in 1961, (36). Such affectionate nicknames as 'The Prairie Chicken', or the 'schizophrenic lumber yard', only reveal the combination of charm and terror evoked by its imagery. For while Goff's architecture is of the freest and potentially purest architectural ideas of form and texture, Greene is increasingly objective in his architectural imagery – deliberately exploring subconscious responses based on a cultural iconography of personal and social conditioning. Superficially Goff and Greene might be classed together as Neo-Expressionists – on the same limb as Saarinen's 1963 TWA bird. But Goff's expressions are of the most abstract and non-narrative kind. Although everyone else loves inventing the stories about Goff's buildings, Goff's storytelling narratives mostly involve situations with Wright. Alternatively, Greene's architectural messages are designs richly overlaid in the many tongues of things remembered, especially those intense associations of our formative years. At best, Goff and Greene share only common roots, but their branches diverge widely in spite of their strong mutual respect.

Greene's continuing presence at the University of Kentucky, Lexington, has come with some price to his professional practice. Or has the intensity of his architectural imagery discouraged clients? In any case, although he has completed a number of commissions with modest dimensions but bold and skilful results, his growth has been increasingly dependent on paintings. Greene's paintings are typically dreamlike and sometimes nightmarish collages that often swoop together historically definitive photographs in suggestive new contexts. Their great pictorial finesse is as potent of cognitive processes as his architectural skill.

More recently, Greene's book, *Mind and Image* has been published by the University of Kentucky Press. It is a provocative and thickly worded work defining his own perceptions and processes. To date it is the most substantially written document in understanding some of the issues that have emanated from Goff. The insights of counterpoint revealed in Greene's paintings and writings do not dissuade him from believing that both he and Goff

do belong to the 'organic' school. It is not a stylistic school, but a philosophical commitment. Greene defines organic as:

characterised as responsive to the specifics of site, climate, available technologies, and to the function of the building. It also uses as form determinates the social and psychological needs of those its structures are to serve. (Page XI, *Mind and Image*, Herb Greene, 1976.)

Greene's accounting of sense data is a variant of Goff's professionalism in responding to clients' needs.

Greene's induction under Goff came like many other students who entered the school at the University of Oklahoma: Greene had started his architectural studies elsewhere, but had dropped out. Greene was not considered, while he was a student, the most talented of his class. But many will observe that student success, even under Goff, did not anticipate professional success. And like Goff, Greene is highly talented as a draughtsman – he can graphically communicate his images.

There are several other teachers in various architectural schools, graduates of Goff, who have attempted to continue Goff's high standard of offering an 'organic' education. Among them is Rex Slack who is on the faculty of the Department of Architecture at Kansas State University. A profile of his career indicates some of the experiences and concerns of a conscientious apprentice. Slack graduated from the University of Oklahoma in 1952, but continued in Norman to work on the working drawings for Goff's Wilson House. When these documents were completed, he joined the owners and Ray Cobb at Pensacola, Florida, to assist with construction until the Wilsons moved into their new house in the summer of 1953. Then, after other apprentice experiences, Slack established a practice in 1957 in Muskogee, Oklahoma, a small city 50 miles southeast of Tulsa. Only after eight years of practice that resulted in the building of 12 houses, (7-10), did Slack move to Manhattan, Kansas to teach.

As a sabbatical project during the spring of 1975, Slack attempted to define and study the specific influence of the teaching philosophy of Bruce Goff while at the University of Oklahoma, as represented by architects around the USA. He called his study, 'The American Transcendentalist Architects and Their Work', a title defined by the Australian architectural critic Robin Boyd in his 1965 book, *The Puzzle of Architecture*.

Such an idealistic image of youthful vision and vitality does indeed describe Goff's possessive dedication to architecture, as well as the commitment of many of his protégés. But Goff and everyone else were just amused by such a label as 'Transcendental'. Indeed, although a fraternity of kindred spirits and mutual supporters does exist, they share neither name nor scripture. Goff is the spiritual tie that binds and gives philosophic passport to otherwise strangers. But there is no litany, only sensitivity to actions.

The project of Rex Slack received polite interest but no great enthusiasm. No descriptive word or category definition was suggested. The core Slack identified as 'American Transcendentalist' prefer neither banners nor organisation. Indeed their successive identity with Goff and his ideas are characteristically as individually personable and intimate as their idiosyncratic architectural designs.

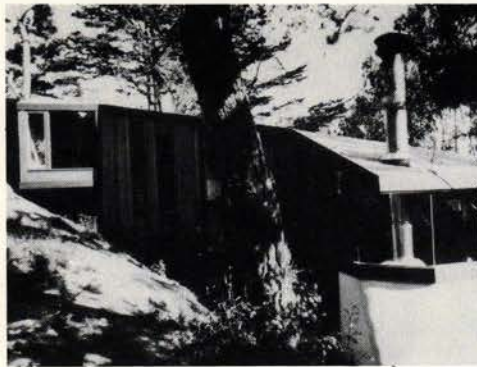
But perhaps the most successful professionals to come out from under Goff's wing have not been the university graduates, but a series of apprentices,



11 House at Stinson Beach, California, 1969, Valentino Agnoli. While the guidebook describes this house by a former Goff student as one of several 'handcrafted, technological fantasies', the structural discipline is readily visible as part of the exterior expression of columns and beam ends. The handcrafted label applies equally appropriately to almost any free-standing house anywhere. The verbal fantasies stimulated by Goff's architecture are also part of the professional response to the more original buildings by his apprentices. (Photo: 'A Guide to Architecture in San Francisco and Northern California', by Gebhard, et al)

both during the Norman years and after. They have worked with Goff in every phase of architectural contact. With increasing assignments of responsibility it is that ever-changing cadre of young initiates who have produced the working documents for Goff's remarkable visions, and, more importantly, have participated in and assured their construction. Their premium skills have been the backbone of a loosely knit network of Goff friends who are distributed around the US and elsewhere. Occasionally they have an opportunity to do their own work, but none has established a practice yet with any national recognition.

Typically the buildings of such architects are sensitive and sensible. Particularly, in their vision and detailing of building materials, they demonstrate simultaneously a freshness and a sense of propriety that escapes many practising architects in the US. While, like Goff's buildings, they are often described as fantasies, they do, in fact, possess reality as well as charm. And if their compositions and uses of materials are not so conventional yet, their architectural virtues range from the ordinary to the exceptional. One example is a house by Valentino Agnoli built in 1969 on a steep, wooded slope facing the Pacific Ocean along Route 1, (11). Overlooking Stinson Beach in Marin County, north of San Francisco, it is a wooden crow's nest above the tree tops. Its pole structure is expressed outside the continuous skin of wood



12-15 Bob Bowlby's own House, 1974, Carmel Highlands, California. The house of a Goff protégé for himself is both loose and discreet – it quickly disappears in the coastal forest of California. Only close examination and prior knowledge would associate its free plan and careful detailing to an apprenticeship drawing and building Goff houses.

shingles. Its particular personality reflects Goff's belief that every architectural brief is unique and requires a distinct solution. Its illusion of the hand-made is based on an intricate understanding of construction materials.

Much more discreet is Bob Bowlby's house for himself at Carmel Highlands, (12-15), near the coast to the south of San Francisco completed in 1974. It is a house which deliberately slips up a precipitous and wooden site, quickly disappearing into the trees. On the exterior only a few details hint at Bowlby's strong apprenticeship experiences with Goff – otherwise, it accomplishes a skilful anonymity. But then, Goff's own houses which photographically often appear deliberately outlandish, when visited are possessed by a quiet propriety that binds them into their entourage.

Another Goff apprentice was Bob Overstreet, who more recently was an architectural partner



of Elmer Botsai, the 1978 President of the American Institute of Architects. Other former students and apprentices are active in a variety of responsibilities both at home and in foreign countries.

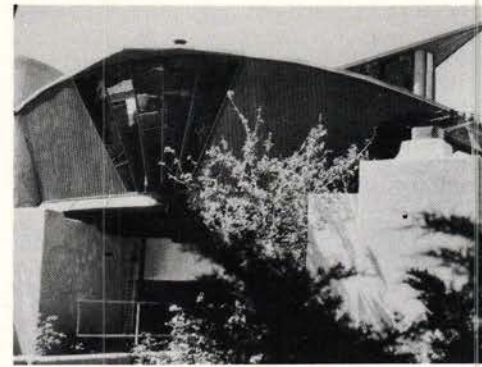
Among the younger apprentices of Goff, potentially the most promising, might be Bart Prince, who practises in Albuquerque, New Mexico. Prince, with an accredited Bachelor of Architecture degree, graduated from Arizona State University with some distinction. In fact, Prince was sought out by Goff while he was guest lecturer at ASU, after he noticed some of Prince's designs on display. Prince began by working one summer in Goff's office in Kansas City. A major responsibility for Prince was the construction of the Glen Harder house at Mountain Lake in southern Minnesota; completed in the early 1970s. Later, in his own practice, he provided working drawings and site supervision of Goff's design of the Barby II house at Tucson, completed in 1976.

When Prince established his office in 1973 in Albuquerque, he began with a typical range of commissions for houses and speculative buildings. However out of his prolific and uncompromising designs, a number have been already built. Although his work has not yet been published, except for notices in local newspapers, he has attracted major international attention. Yet his work is totally unknown in the US outside New Mexico.

Among early simple designs by Prince is the Worley addition, (16-19), to an ordinary house on Monte Vista in Albuquerque of 1974. The project was to design a spacious lounge or salon separated from the rest of the house that would be furnished with an heirloom Chinese carpet. Partially because of siting reasons, the new room is slung over the top of the one-storey house – its peaks and prows pointing over the parapet. Its sculptural bulk constructed of exposed timber and plywood is in contrast to the stucco covered brick walls of the older house. The generously bulging interior accommodates its luxurious rug, a light fireplace, and a stereo system.

Much more public is a speculative two-storey office building called Shalako South on Zuni and Louisiana Avenue in Albuquerque, built on a tight budget. It was designed in 1973 and completed in the spring of 1974. The diamonds of the plan layout allows tenants individual identity. The programme required a series of 1 000 square foot modules which could be subdivided at will, or alternatively linked together for larger leases. Its total of 12 000 sq ft provides the maximum allowable building using surface parking.

The diagonal parking layout dovetails to the projections of bays and stairs. Timber frame and trusses with plywood box beams were necessary to meet the budget. The exterior triangles are actually



16-18 Exterior: Worley Addition, Albuquerque, New Mexico, Bart Prince, 1974. The architectural problem of how to make a significant addition to an ordinary house on a city building lot is here solved by floating a contrasting element above the original. The structural independence of the addition is achieved by using pipe columns with curved glue laminated timbers. The thinness of the plywood skins and their sculptural forms are juxtaposed with the smooth mass of the older house.

structural trusses covered with stucco. Aside from the patterns of contrasts between dark glass and light tan stucco, there is little detailing except for stair handrails. Forced air conditioning eliminates the need for openable windows.

Thoroughly exuberant is Bart Prince's recent proposal of 1977 for a home for Robert Hanna, (24-35), to be built near Old Town and the Rio Grande River in the downtown area of Albuquerque, New Mexico. It is a dynamic tower composition of almost weightless forms that move upward and outward. Structurally it appears to need holding down rather than holding up. Assembled forms seem to just touch each other. Crisp contrasts of massing are enriched by strong definitions of solid and void which emphasise their volumetric content. The section reveals a spacious



19 Interior: Worley Addition, Albuquerque, New Mexico, Bart Prince, 1974. While the plan form of this floating room with its curved sides is similar to the plan of Herb Greene's house, the spatial and structural developments are totally different. Here, the softened floor plan allows a more plastic handling of the space which is carpeted by its *raison d'être*: a rectangular, heirloom Chinese rug.

top skyroom terracing outwards. A central fountain ties the levels of the tower together. Adjacent is a solar heated swimming pool and sports court, which provides a horizontal base for the vertical residential element.

Bart Prince has already produced a body of work that rivals that of his similarly apprenticed colleagues. In its free architectural approach it probably comes closer to Goff's own work than any other. Admittedly one can discover seeds and themes of some of Prince's designs in Goff's earlier work, but that is almost inevitable when one begins to realise how fully and how long Goff has explored the architectural frontiers of the century. With such a young and bold beginning it appears that Prince may ultimately bring to a series of public buildings and spaces the exploratory sensitivities that commissions have denied Goff.

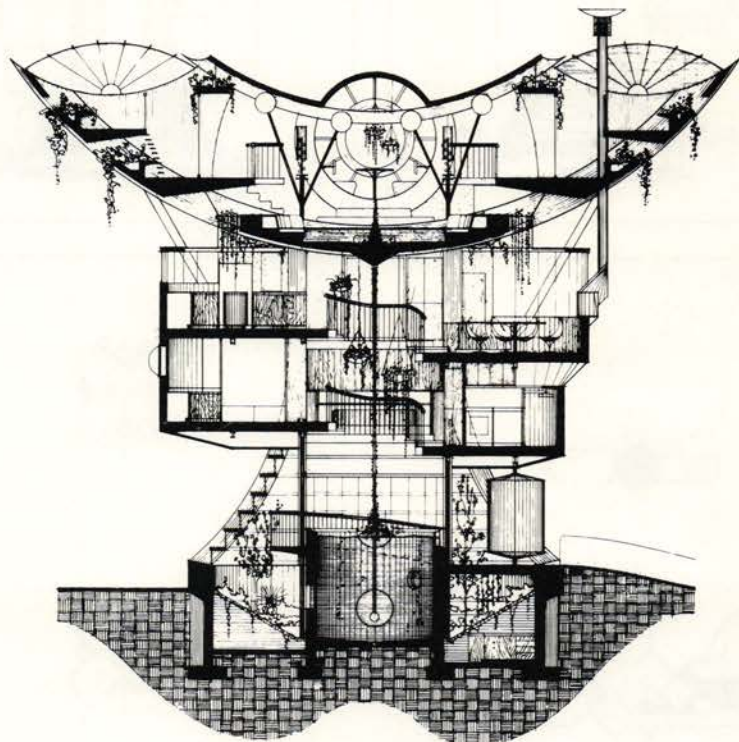
Such an unbalanced review as this article can only probe at the dynamic and elusive influence of Goff in America. His work has been known and published with the most admired architects of the century since 1929. Even during his least recognised periods the architecturally informed have always known of Goff and regarded his works with both curiosity and a reserved respect. But if one measures the importance of an architect by the quantity of his imitators, then Goff is very small, if exotic, fish.

Goff is a continuing presence of subtle pervasiveness. The impact of his architecture may seem to be sudden, but the memory lingers. Goff is typically regarded from abroad as the most American architect in his great freedom of design and in his lush use of apparently expensive materials and skills. At home he is conventionally regarded as an eccentric, not at all relevant to American values. But to those interested in architectural values, Goff represents not so much an alternative as an ambience of both depth and force. He has provided a field of imperative experience that is an almost silent, but an ever-present, mantra.

For over half a century Goff has been known as an architect almost exclusively of isolated and inaccessible one-family houses; his architecture ought to have been harmless. Especially since his processes are so personal and his results by definition are unique, one should never expect a Goff school or movement; his approach cannot be institutionalised. Yet the architectural values he demonstrates are so potent and the artistic integrity he represents is so persuasive that his ambient influence may be as persistent as it is undefinable.

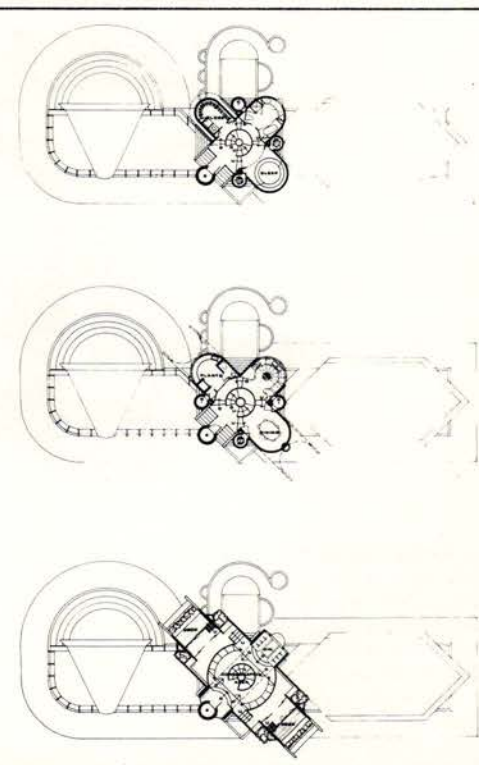
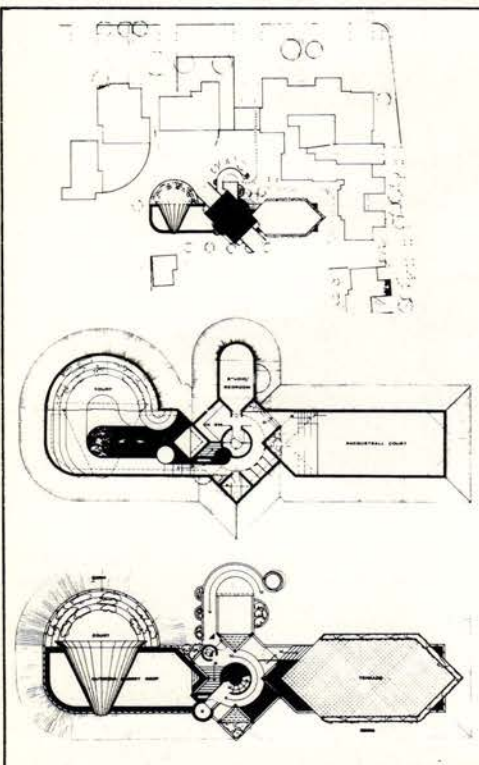
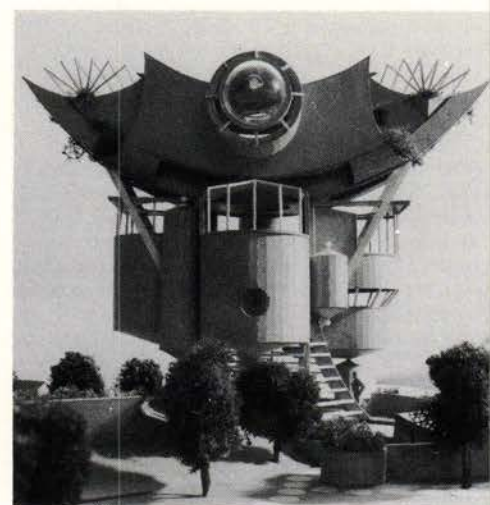
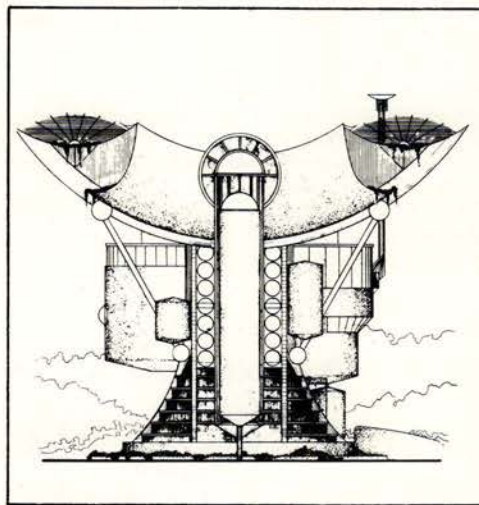
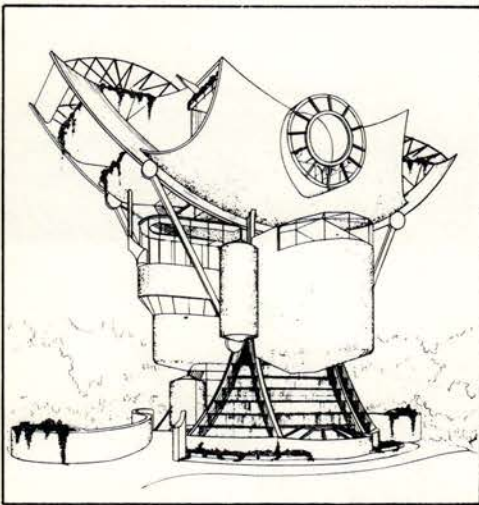
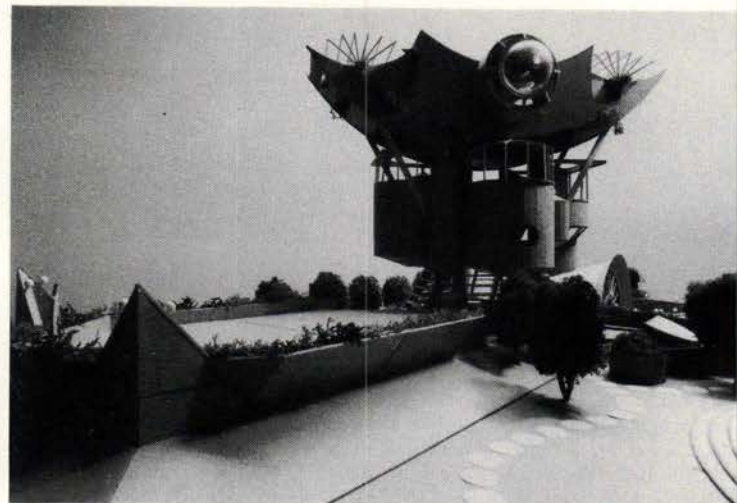
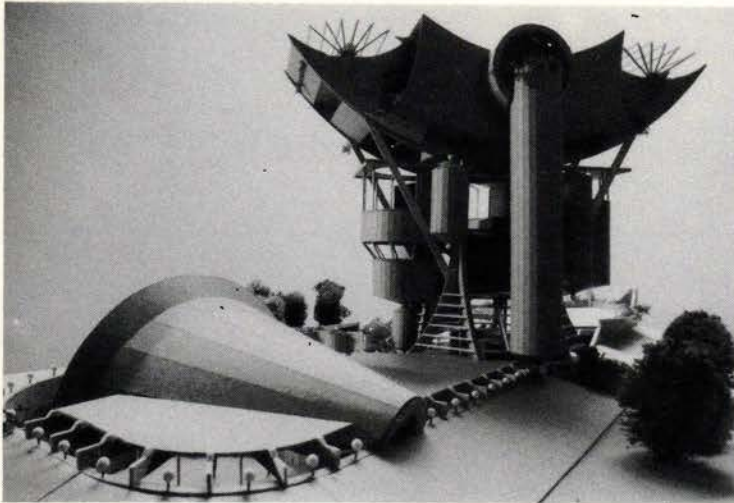


20-23 Shalako South Office Building, Albuquerque, 1973-4, Bart Prince. The cheapest type of construction, wood truss and frame, covered with stucco and the tightest planning restrictions produced a speculative rental property on a busy corner. The economy of a first floor down half a flight makes maximum use of required foundation walls and allows equalised rents for both floor levels. Air-conditioning units eliminate the need of openable windows. Fixed smoked glass contrasts with the stuccoed, structural triangles.



24 Robert Hanna Residence Project, Albuquerque, New Mexico, 1977, Bart Prince: Section of tower. The main living area is a spacious lounge at the top that terraces upward and outward to screened outdoor observation decks on either end. Included is a special drinking/dining alcove for six that is part of a bubble window to give panoramic views of the entire valley. A private study corner and built-in sound system add to the multiple uses of this lounge.

The vertical axis of the house is a fountain with the continuous flow of water guided by a central transparent refill pipe. The kitchen is separated from the formal dining level by three steps. Below is the master bedroom suite with bathroom under the kitchen. The stair connecting the floors is not shown. The main entrance is into an enclosed greenhouse garden with a central pool (no longer as deep as shown). Levels lead down to the underground areas of the house not shown.



25 Robert Hanna Residence Project, Bart Prince, 1977: North-east elevation: study of tower. The elevator occupies the central vertical pod. Vertical strip windows to the sides are covered with a grille of circles. Steel braces hold up the glue laminated beams of the screened observation decks making fan shapes at the top ends.

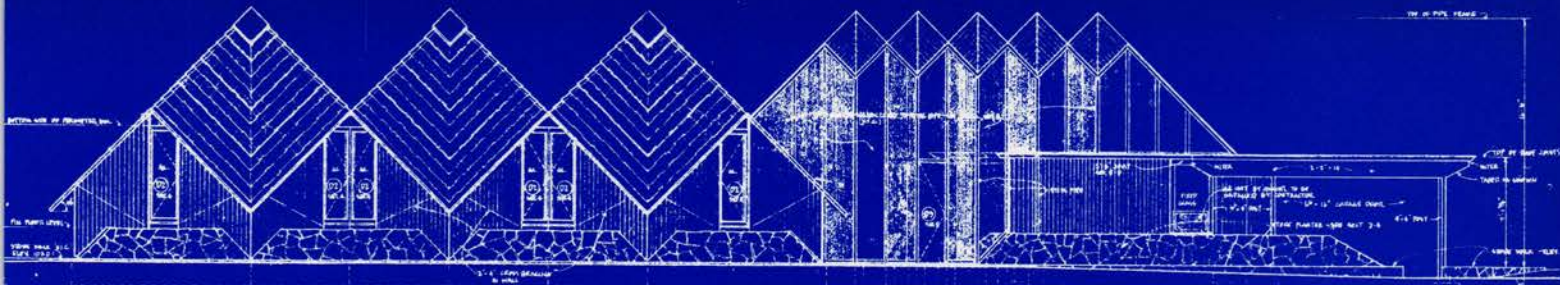
26 Robert Hanna Residence Project, Bart Prince, 1977: model from the north-east. The residential tower sits beside an enclosed pool with an outdoor carpeted deck. The pool walls are continuously lit by a slot at the edge of the roof.

27 Robert Hanna Residence Project, Bart Prince, 1977: perspective study of tower from west. A series of simple rounded forms cluster around a linear structural system that is deliberately expressed. The solid forms would be tiled; the glazed areas would use heat reflecting glass.

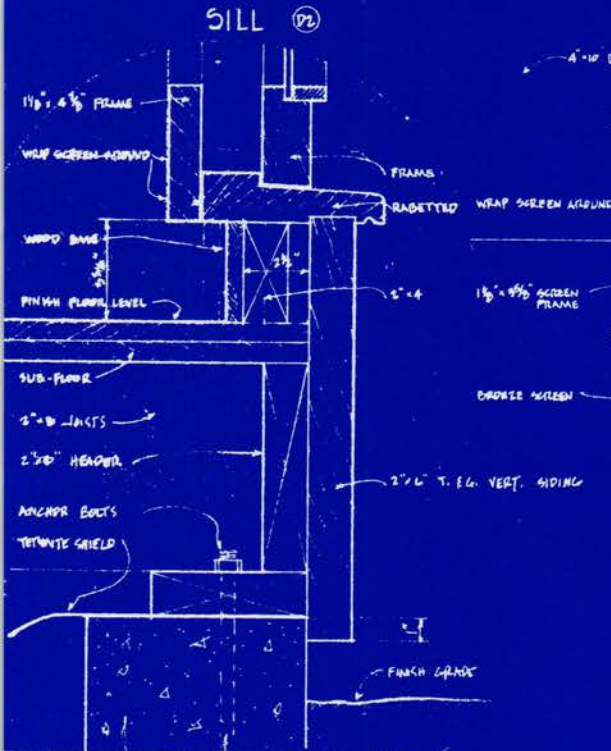
28 Robert Hanna Residence Project, Bart Prince 1977: model of tower from south-west.

29 Robert Hanna Residence Project, Bart Prince, 1977: model of house from the south. In the foreground is roof and terrace over the totally enclosed artificial environment of the racket ball court. Triangular skylights at the left provide natural background lighting.

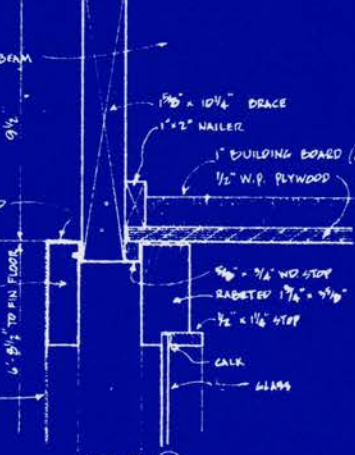
30-35 Robert Hanna Residence Project, Bart Prince, 1977: plans; 30 site plan; 31 ground level; 32 entry level plan; 33 master's suite - third level plan; 34 dining - fourth level plan; 35 living - fifth level plan.



NORTH ELEVATION
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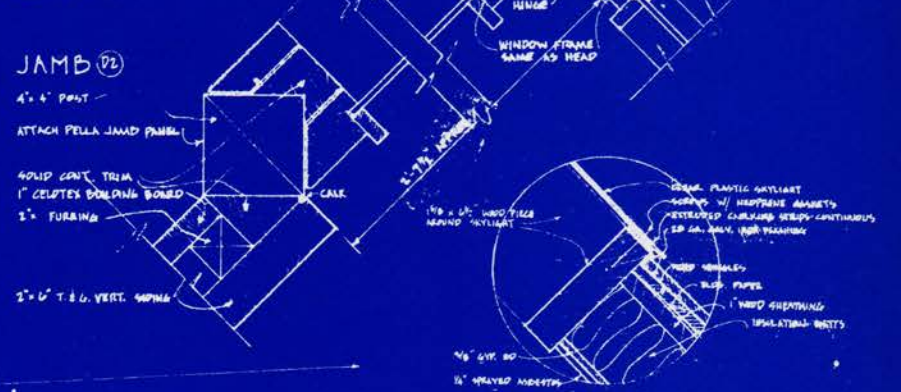
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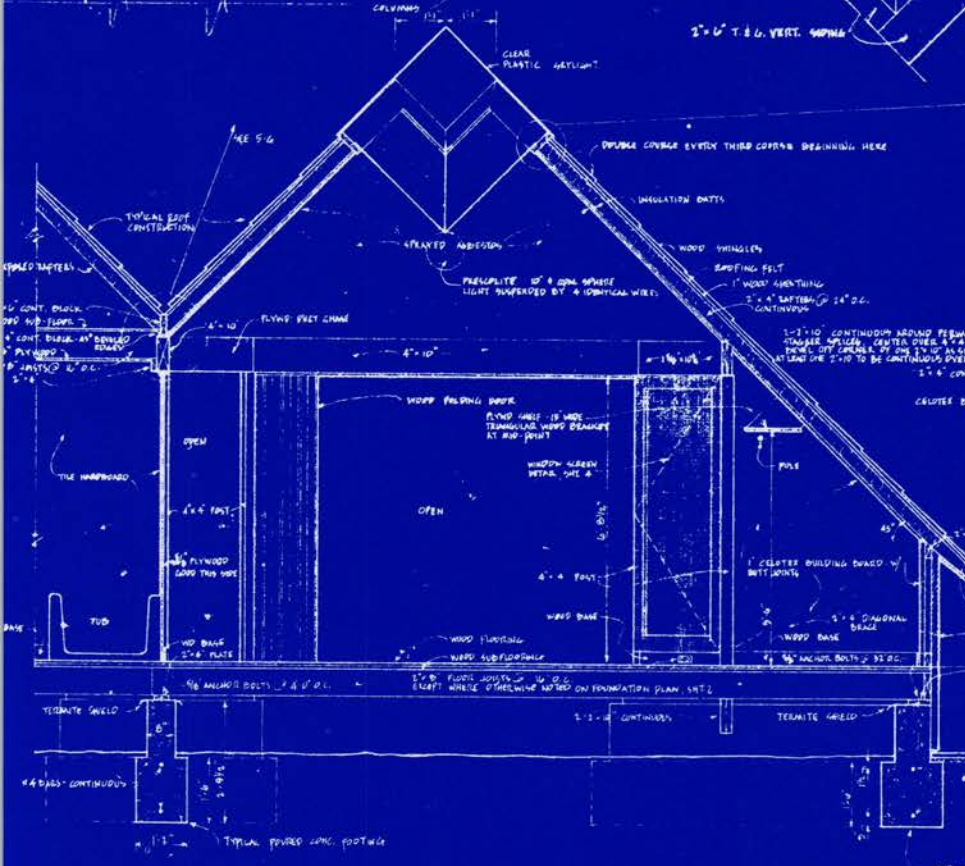
CASEMENT DOOR DETAILS

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P&E WIN-DOR SERIES 50 WINDOW OPERATOR.
WEATHERSTRIP THE DOORS



JAMB (D2)

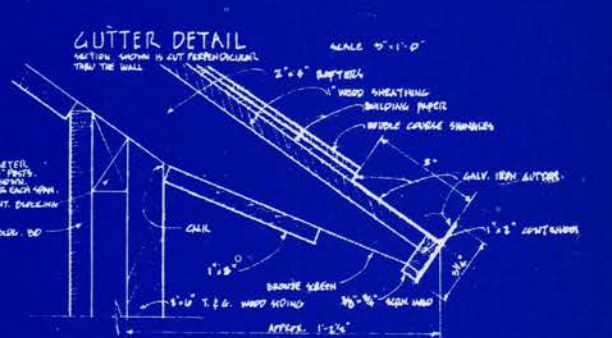
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SECTION 5-A
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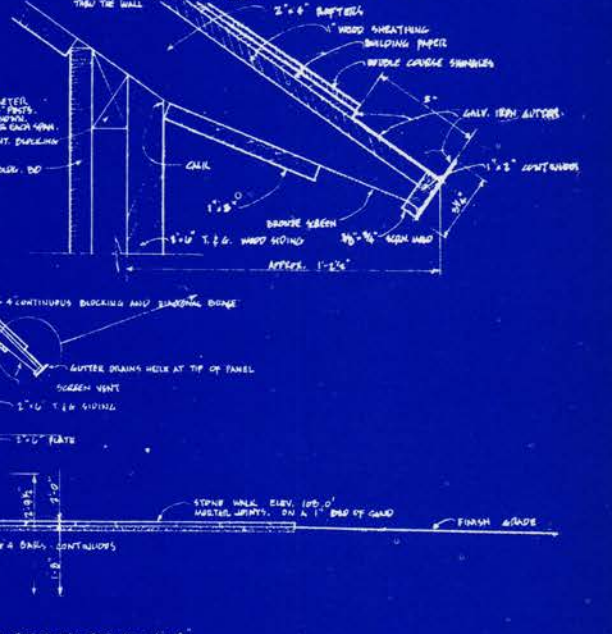
SKYLIGHT DETAIL

SCALE 3/8" = 1'-0"



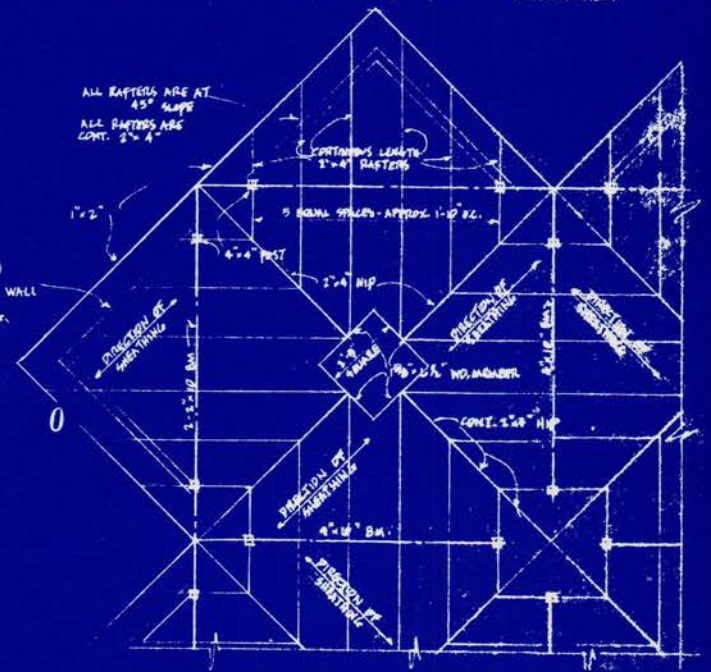
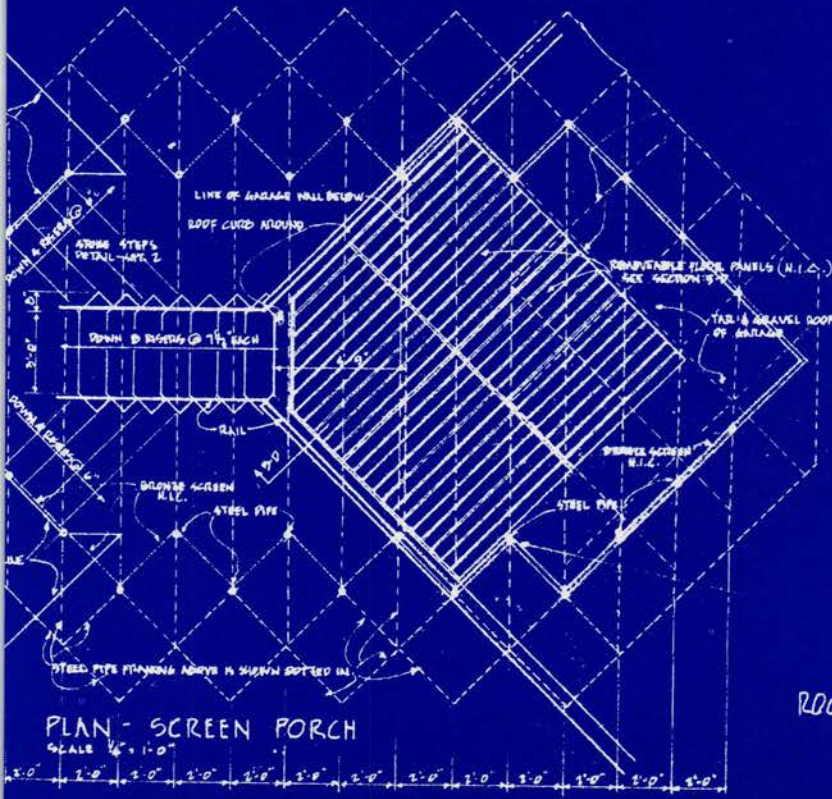
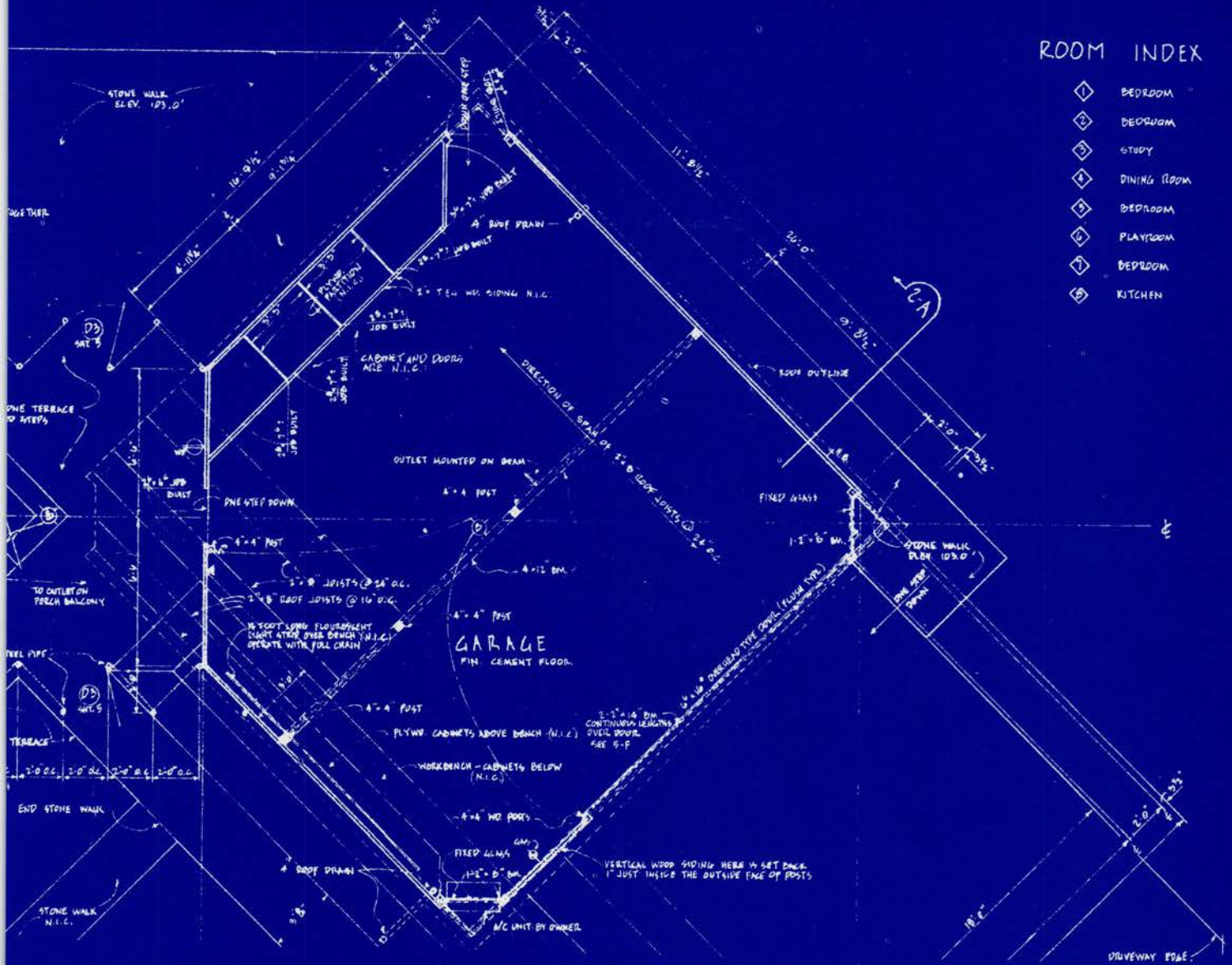
GUTTER DETAIL

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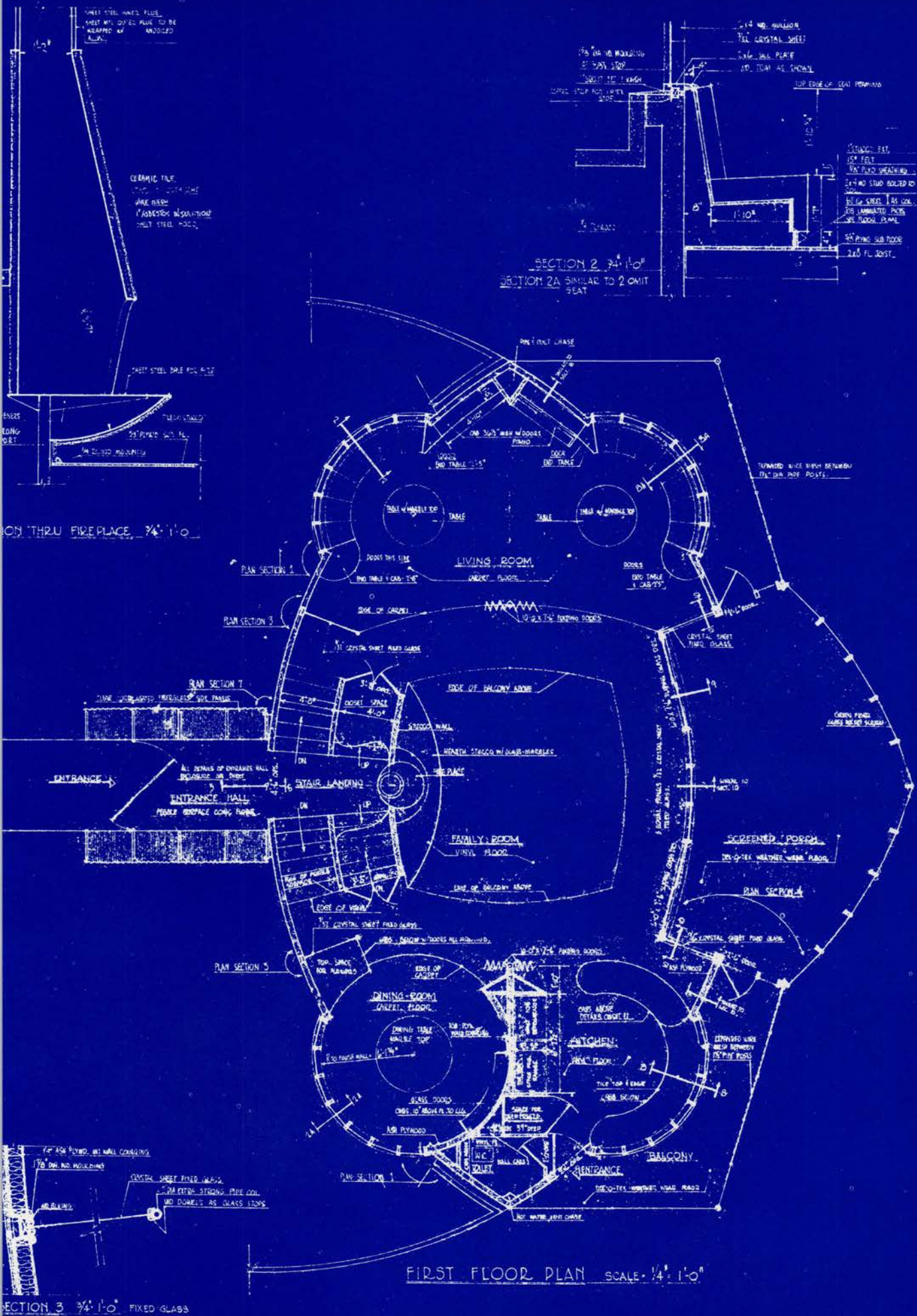
ROOM INDEX

- ① BEDROOM
- ② BEDROOM
- ③ STUDY
- ④ DINING ROOM
- ⑤ BEDROOM
- ⑥ PLAYROOM
- ⑦ BEDROOM
- ⑧ KITCHEN



ROOF FRAMING PLAN OF TYPICAL HIPPED ROOF
SCALE 1/4" = 1'-0"

RESIDENCE FOR
 MR. MRS. WOODWARD
 OCEAN SPRINGS MISSISSIPPI
 PRICE TOWER, BARTLESVILLE OKLAHOMA
 HANDSBORO MISSISSIPPI
 NEW ORLEANS LA



SECTION 3 7'4" 1'-0" FIXED GLASS

RESIDENCE FOR

MR. MRS.

W. O. DODD

OCEAN SPRINGS MISSISSIPPI

PRICE TOWER BARTLESVILLE OKLAHOMA

HANDSBORO MISSISSIPPI

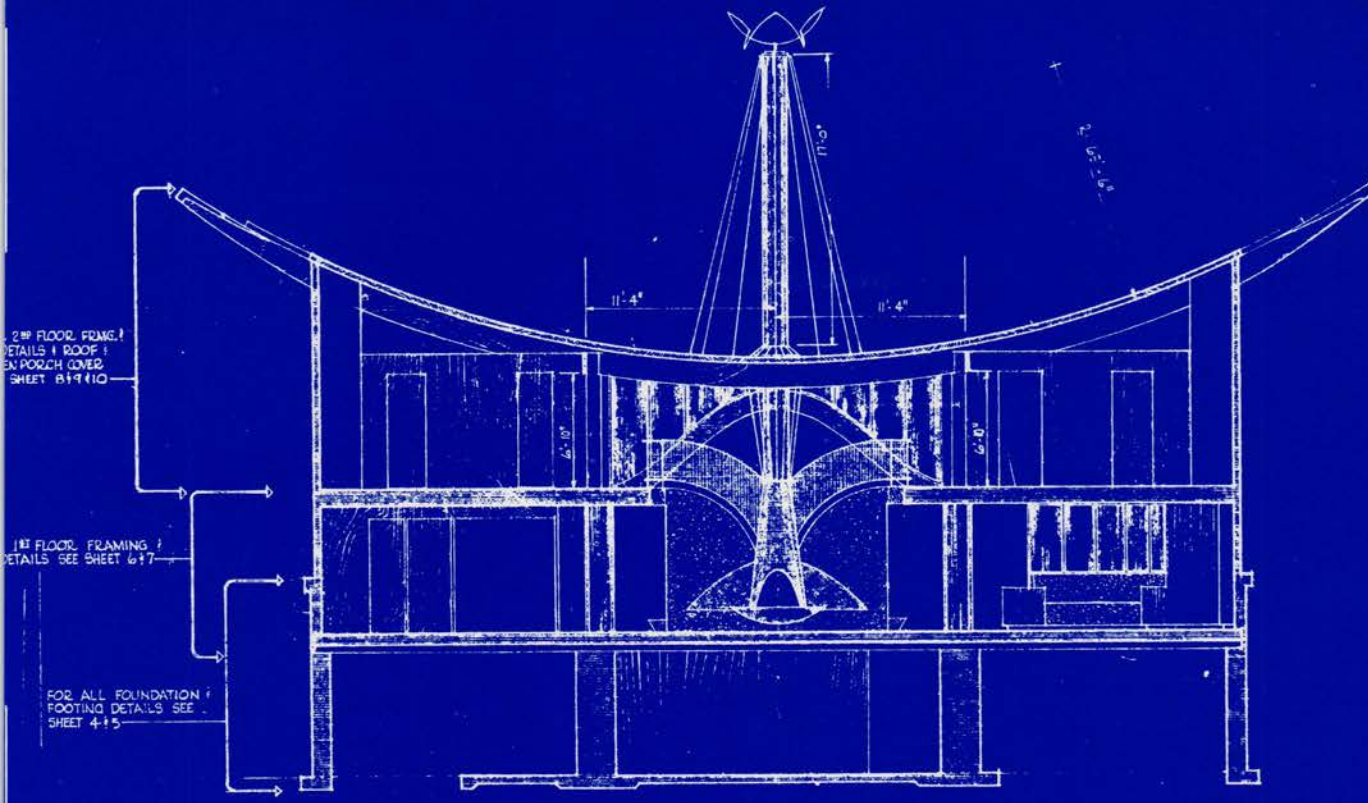
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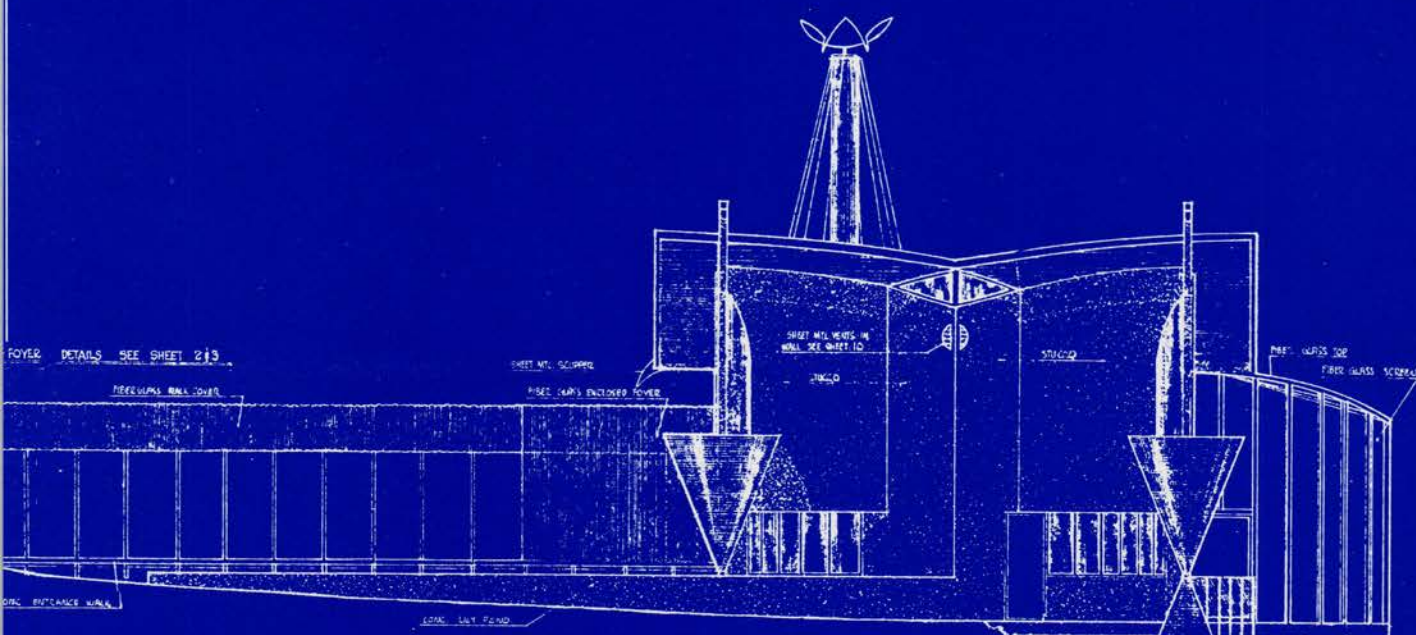
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NEW ORLEANS, LA



SECTION SCALE: 3/16" = 1'-0"

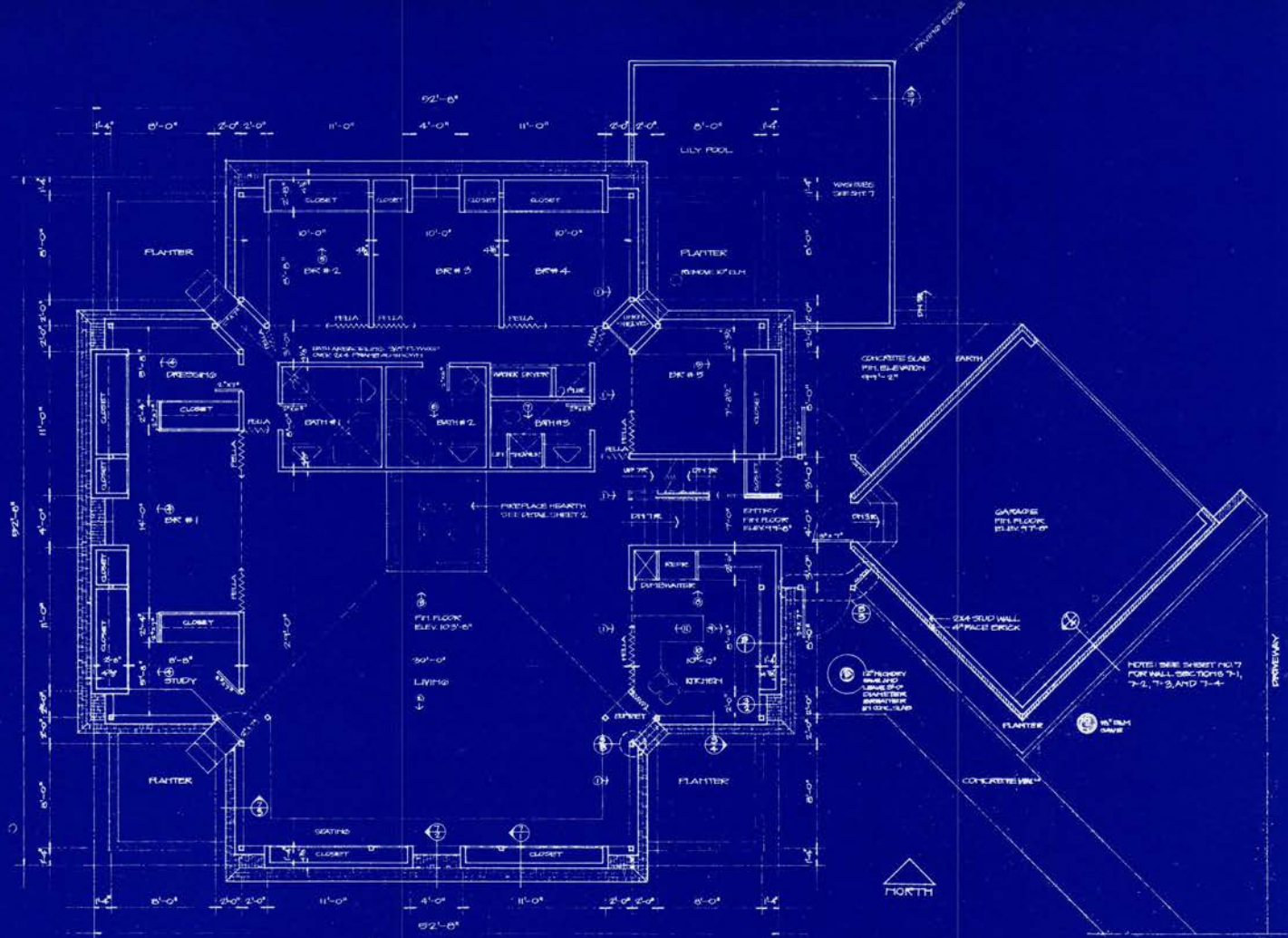
NOTE: FIREPLACE DETAILS SHEET 7
 BASEMENT DETAILS SHEET 6
 KITCHEN & BATH ELEVATIONS SHEET 11
 TILE COVERED BALCONY CONES SHEET 8
 ELECTRICAL SHEET 13



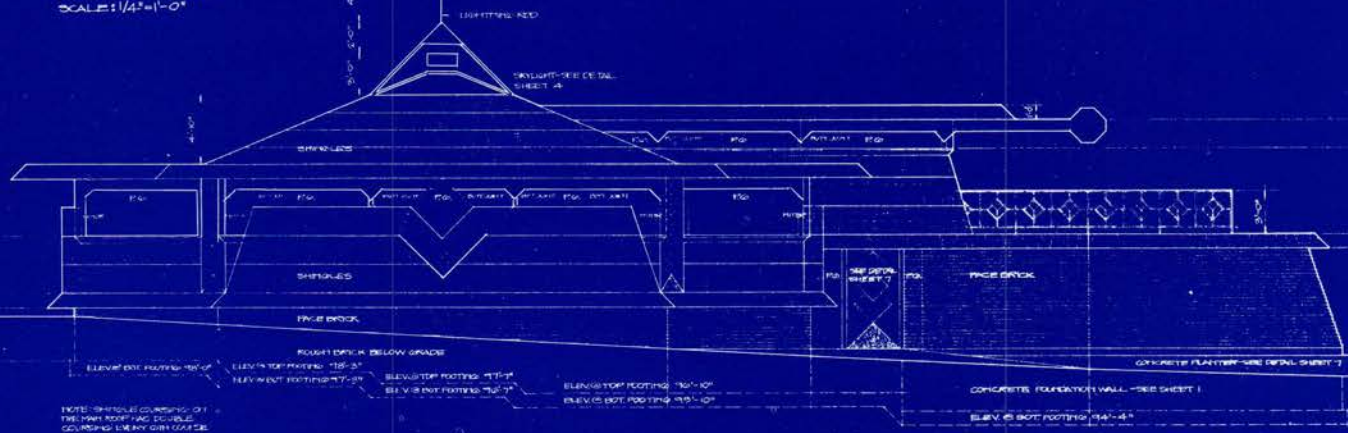
SIDE ELEVATION SCALE: 3/16" = 1'-0"

NOTE ROOF IS NOT FIBERGLASS

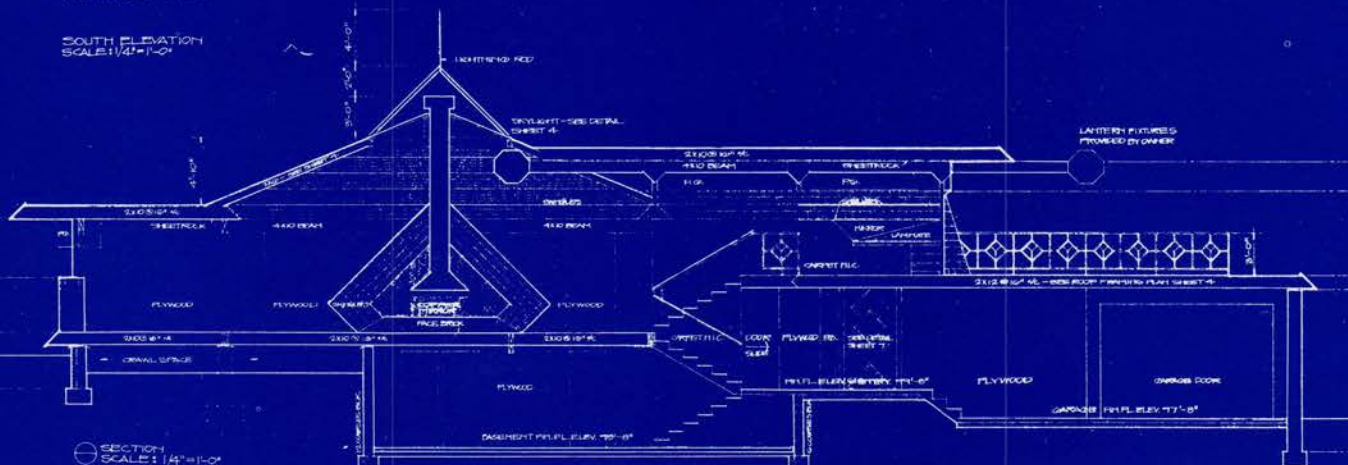
CORNER DOORS ARE JALOUSIE



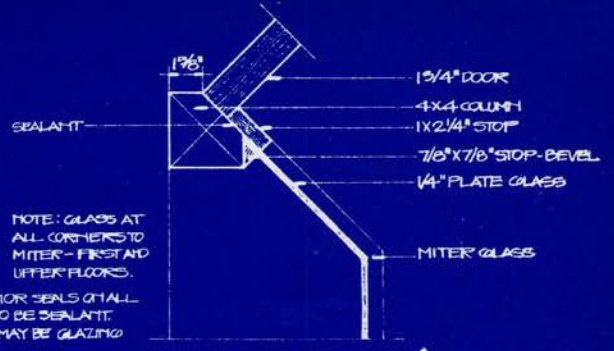
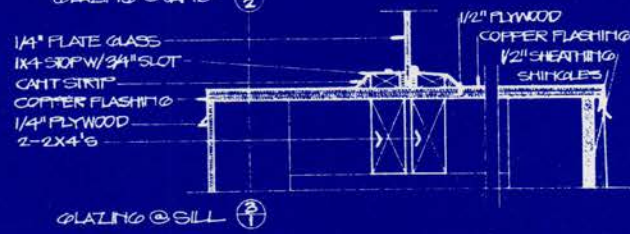
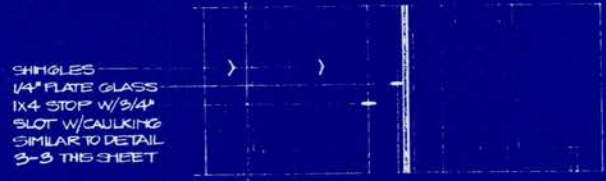
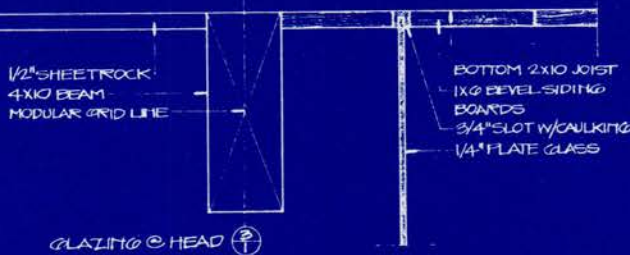
FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"



SOUTH ELEVATION
SCALE: 1/4" = 1'-0"

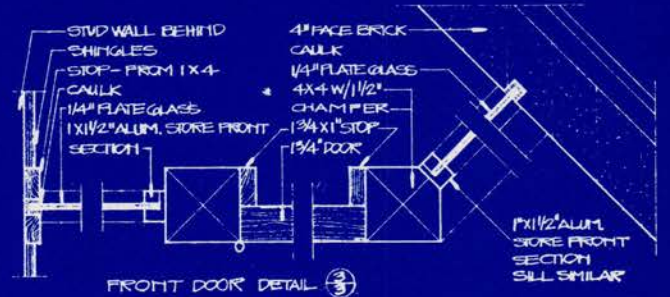


SECTION
SCALE: 1/4" = 1'-0"



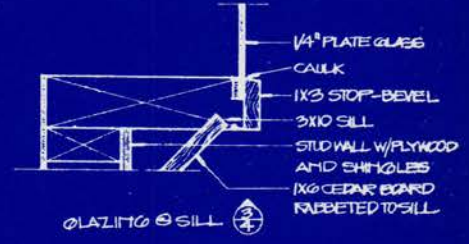
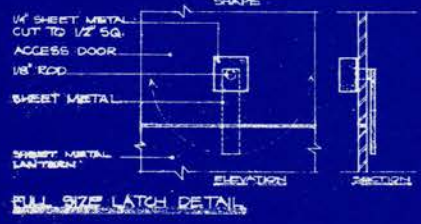
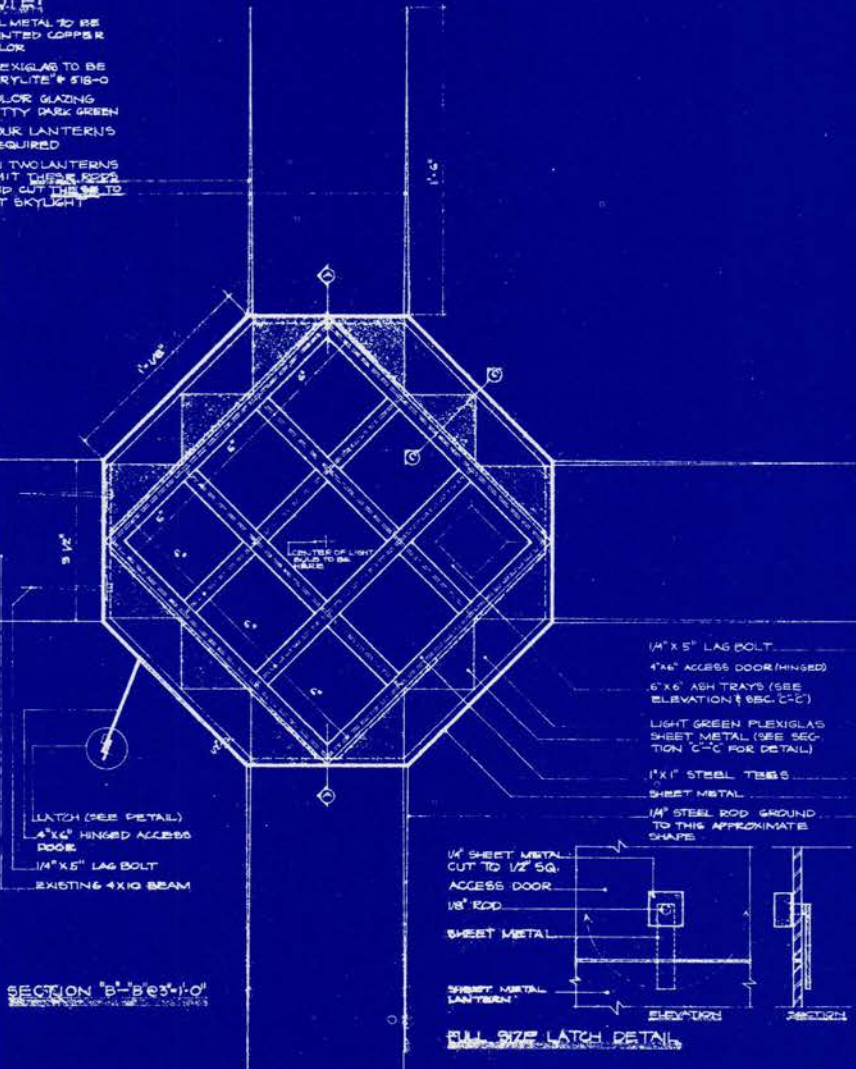
NOTE: GLASS AT ALL CORNERS TO MITER - FIRST AND UPPER FLOORS.
NOTE: ALL EXTERIOR SEALS ON ALL GLAZING WORK TO BE SEALANT. INTERIOR SEALS MAY BE GLAZING COMPOUND.

GLAZING DETAILS SCALE: 3" = 1'-0"
DETAIL @ CORNER (2)

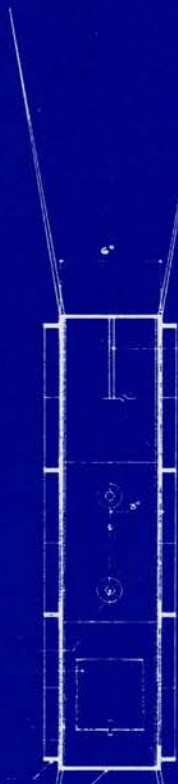


FRONT DOOR DETAIL (3)

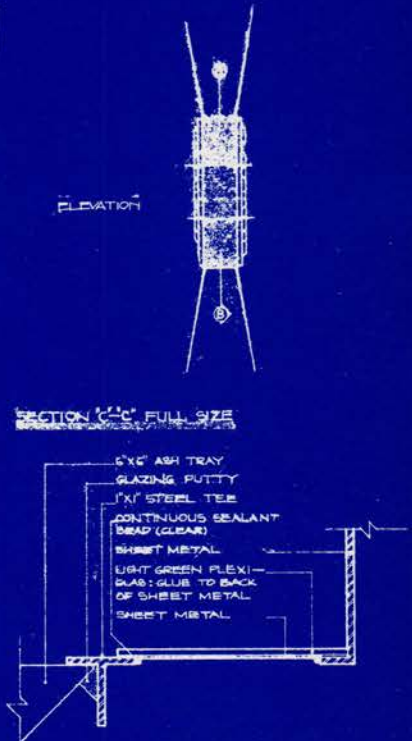
NOTE:
SHEET METAL TO BE FINISHED COPPER COLOR
LEXIGLAS TO BE ERYLITE # 518-0 COLOR GLAZING PUTTY DARK GREEN
OUR LANTERN'S REQUIRED
NO TWO LANTERNS WITH THESE ROSES AND CUT THIS OUT TO FIT SKYLIGHT



GLAZING @ SILL (2)

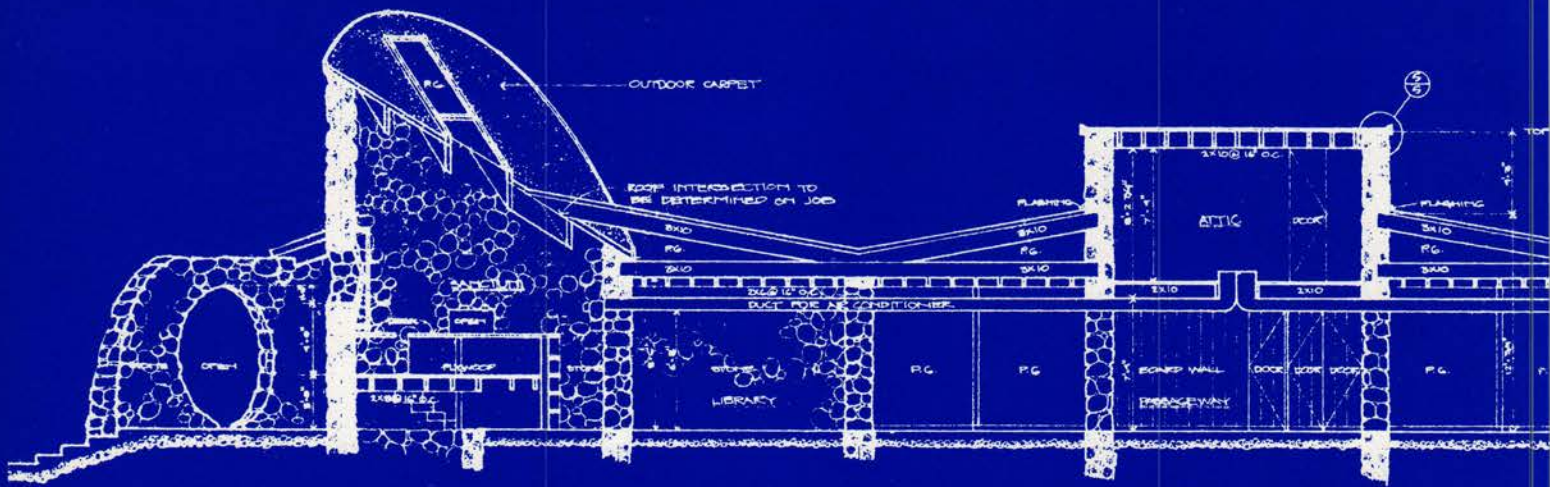


LOCATION OF 1/4\"/>

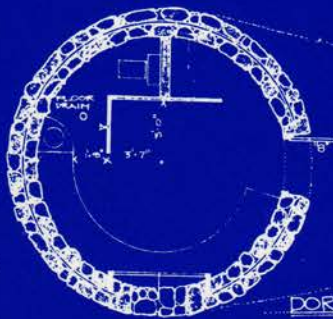


LANTERN FOR THE HYDE RESIDENCE

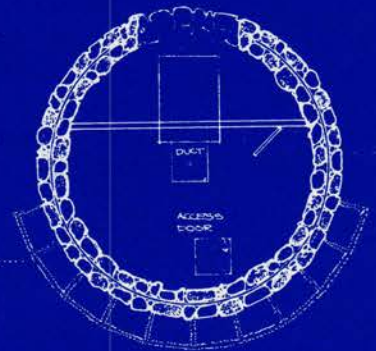
SECTION A-A 3'-0"



SECTION A-A @ 3/16"=1'-0"

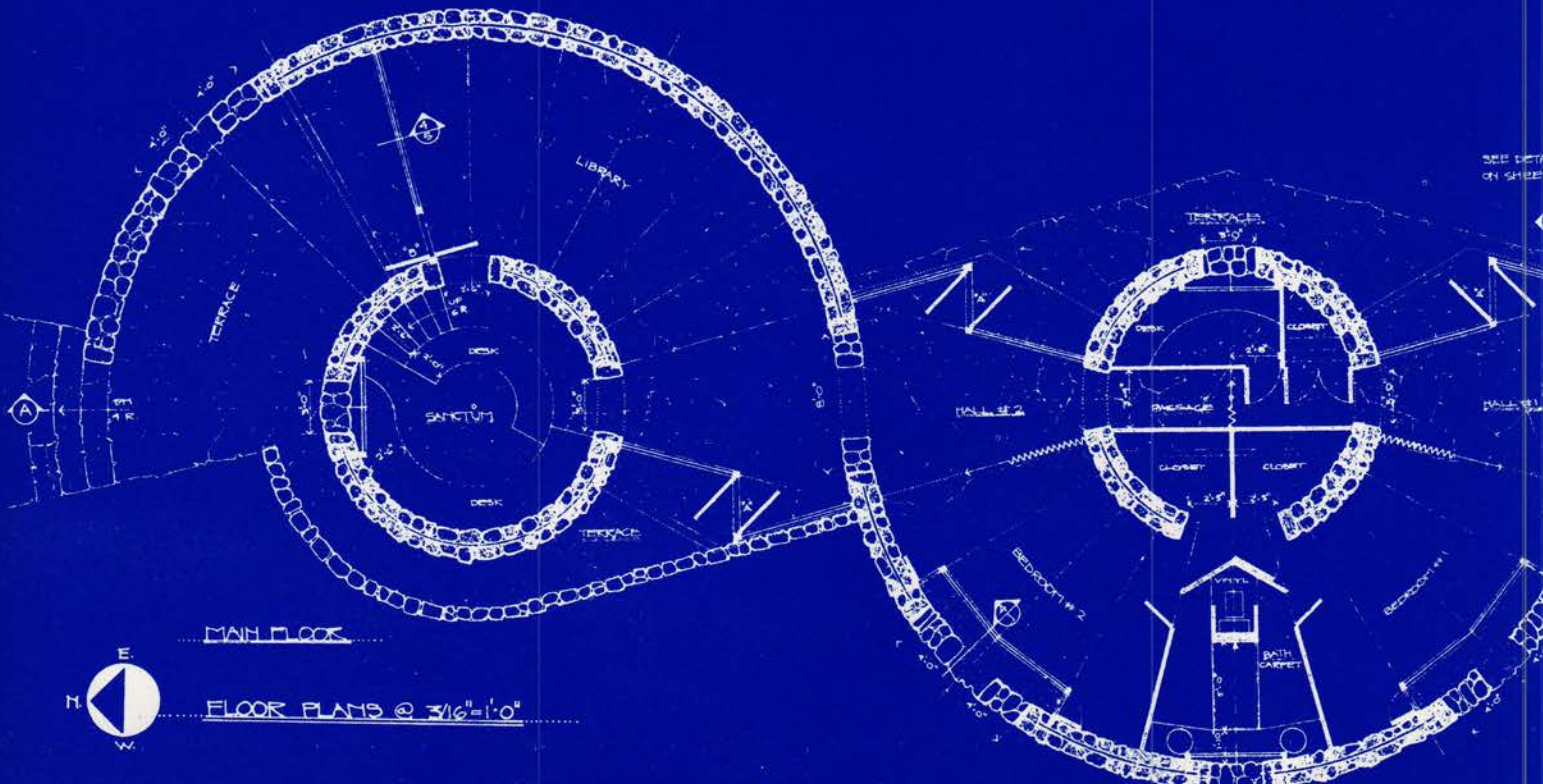


DORMITORY UNIT



ATTIC

ROOF

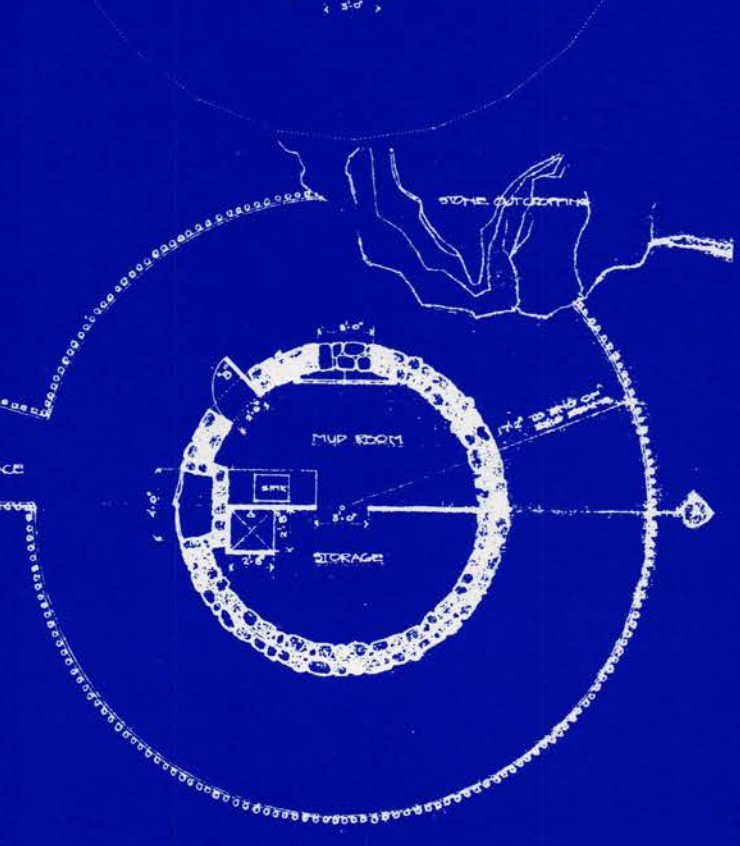
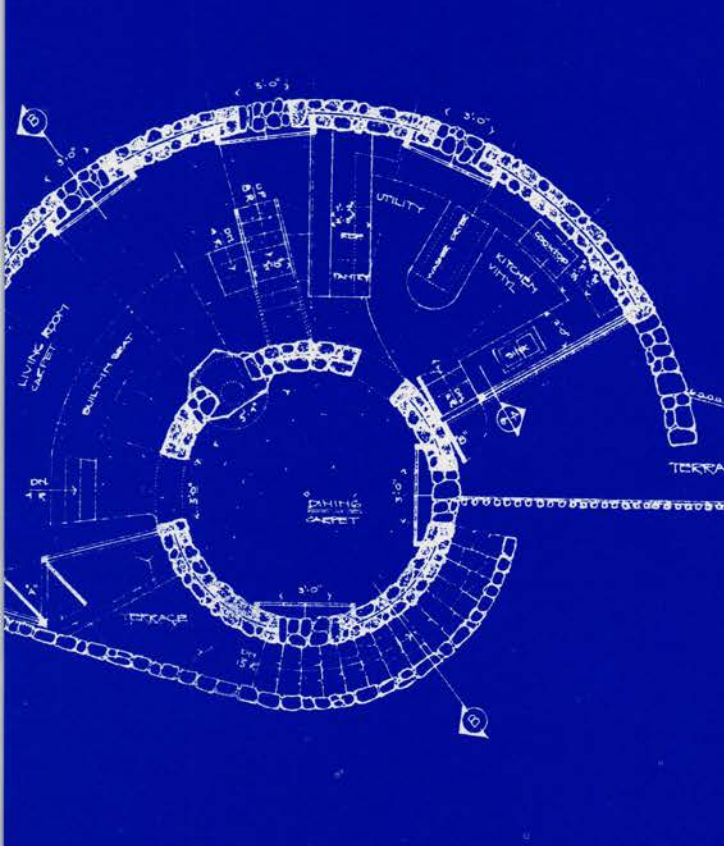
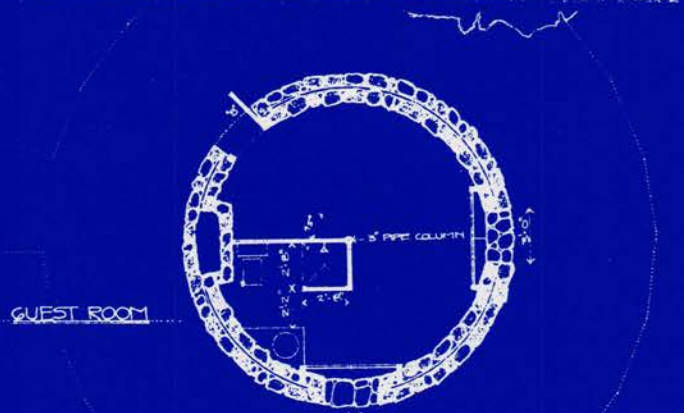
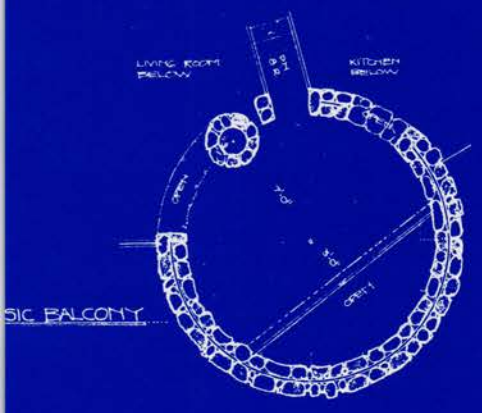
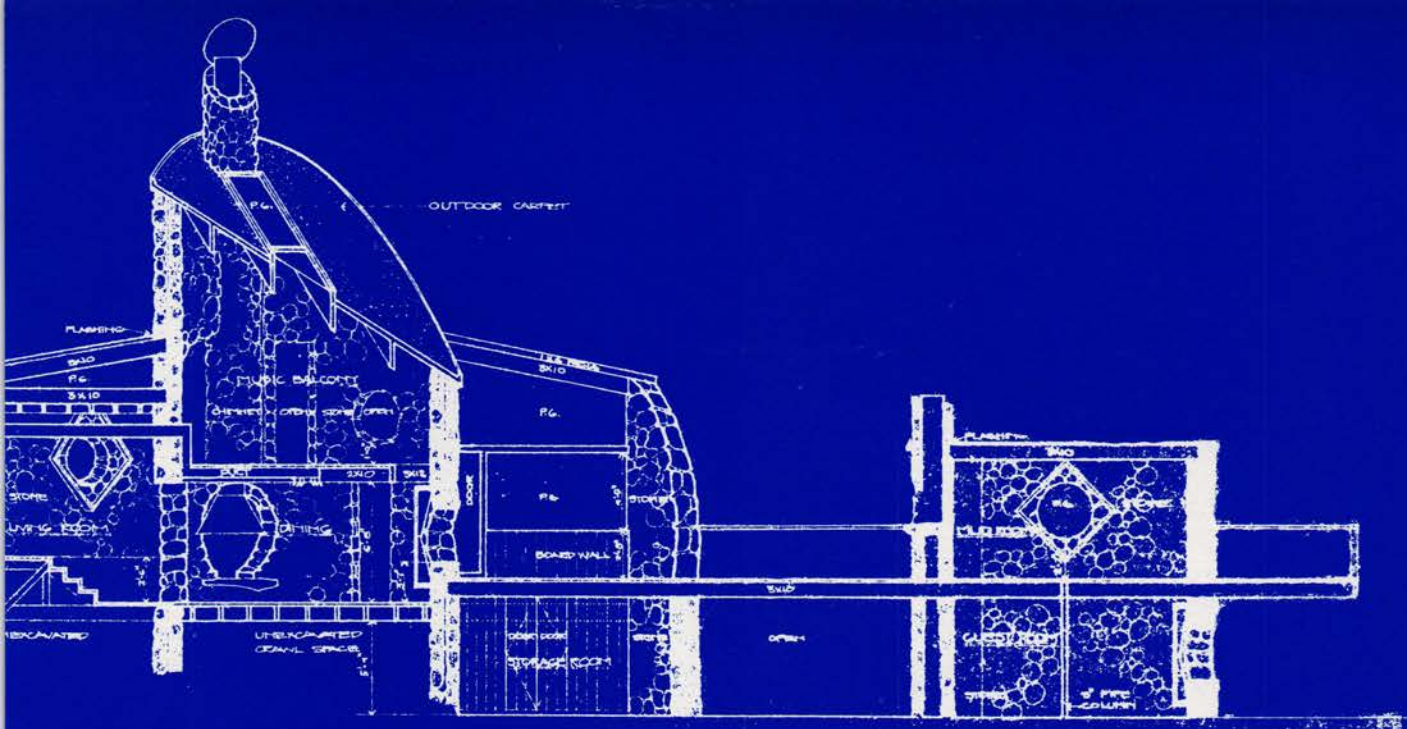


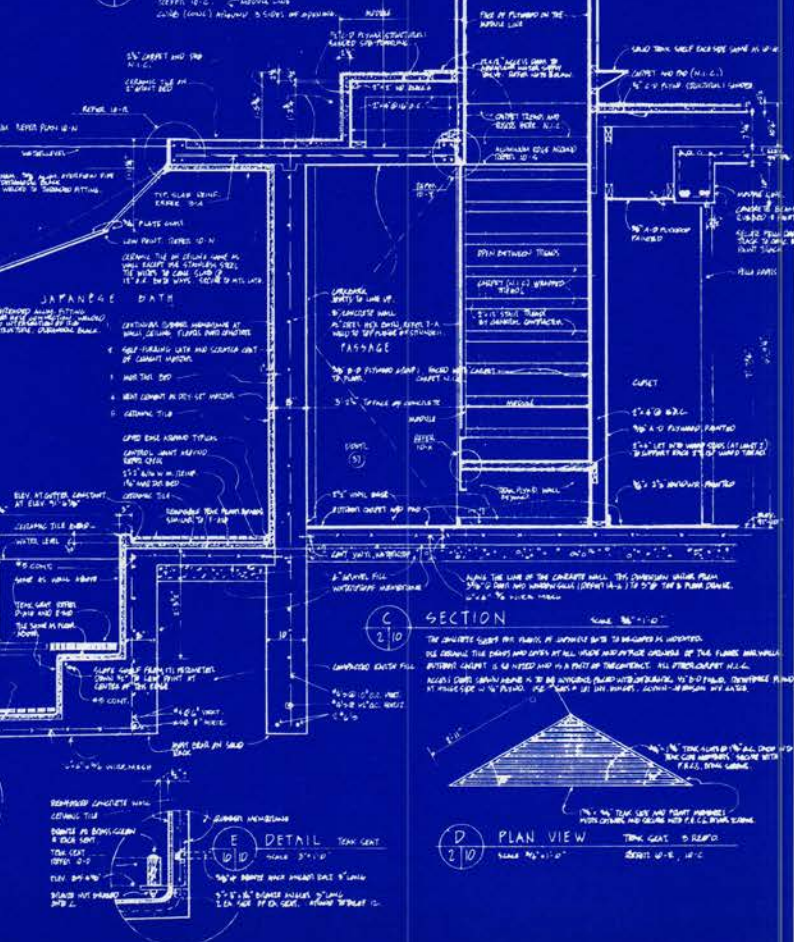
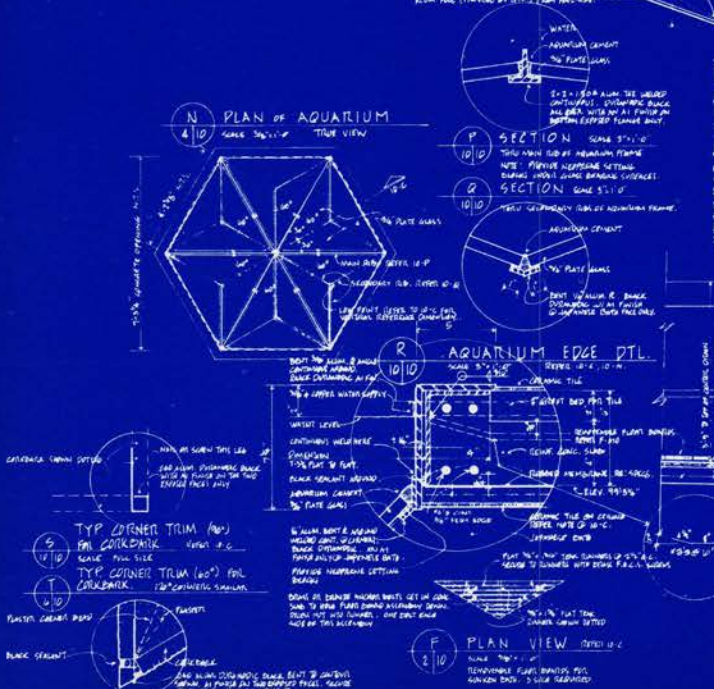
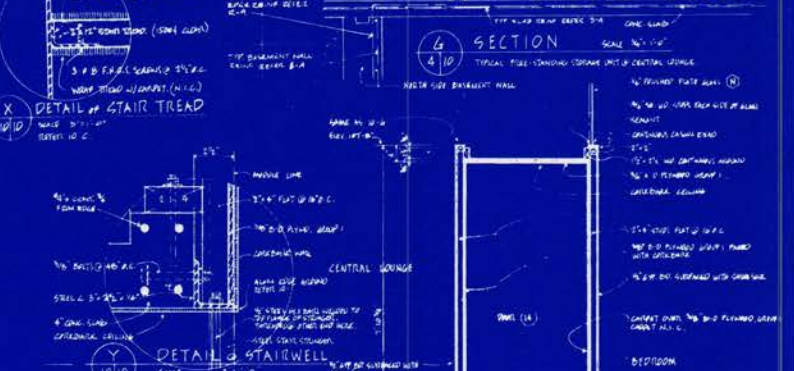
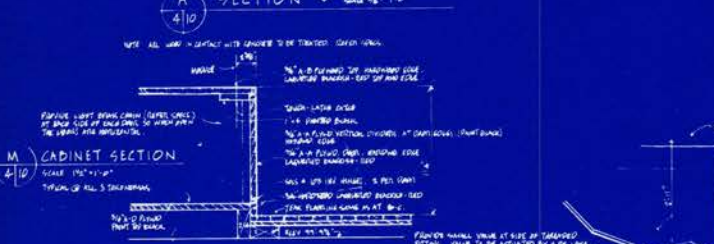
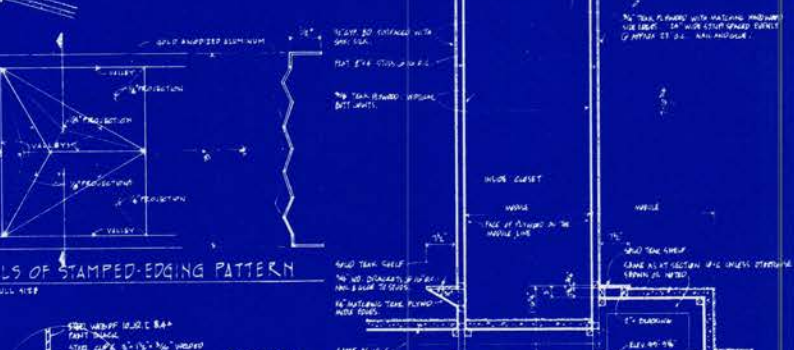
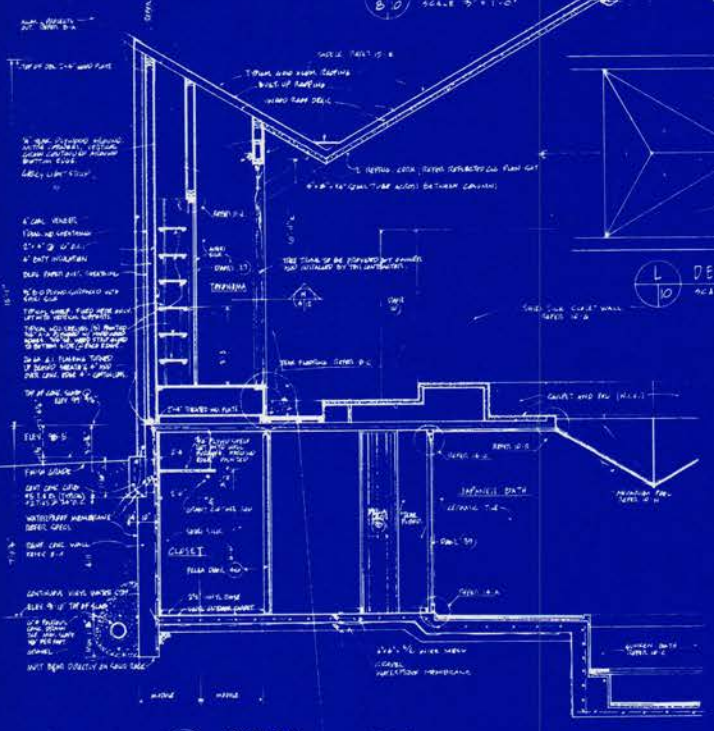
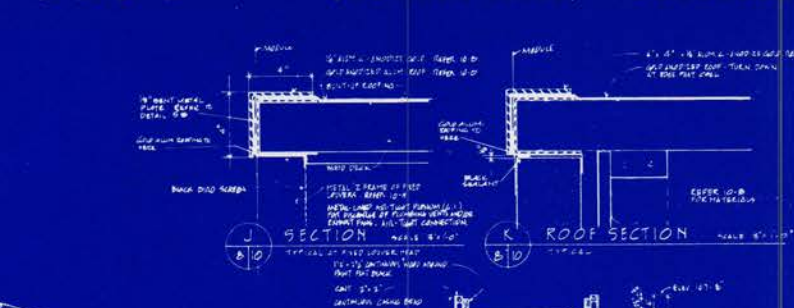
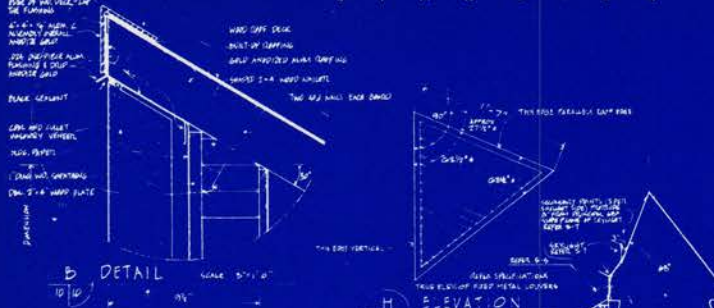
MAIN FLOOR



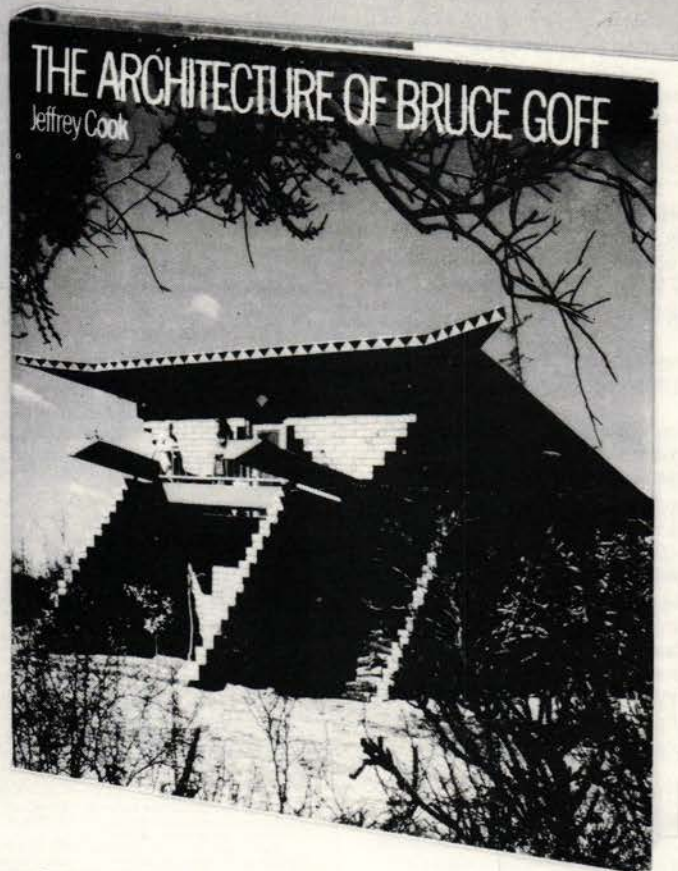
FLOOR PLANS @ 3/16"=1'-0"







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AD PROFILES 4: POST-MODERNISM (AD 4/77). This co-incides with the publication of Charles Jencks' book *The Language of Post-Modern Architecture*.

AD PROFILES 5: OMA (AD 5/77). OMA (the Office for Metropolitan Architecture) consists of a group of architect/artists who have been investigating the metropolitan life-style. All their major projects are illustrated and explained (including 12 pages of colour).

AD PROFILES 7: MILLBANK (AD 7-8/77). This double issue of AD takes as its theme the recent competition for housing on a prime Thames-side site.

AD PROFILES 8: BRITISH ARCHITECTURE (AD 9-10/77). Sub-titled: 'Theory into Practice' this second double issue deals with eight significant British architects: James Stirling, MacCormac and Jamieson, Edward Jones, Mike Gold, Edward Cullinan, Norman Foster, Douglas Stephen and Martin Richardson.

AD PROFILES 9: RALPH ERSKINE (AD 11-12/77). Out of print, revised edition available as book. See order form.

AD PROFILES 10: POST MODERN HISTORY (AD 1/78). The final chapter of Jencks' revised edition of his book. It continues the controversial enquiry into radical eclecticism and its critique of the Modern Movement (including 12pp colour).

AD PROFILES 11: SURREALISM (AD 2-3/78). This major issue explores the relationship between architecture and surrealism (including 12pp colour).

AD PROFILES 12: URBAN TRANSFORMATIONS (AD 4/78). The issue introduced by Leon Krier deals with the theoretical study of the process of urban transformation through history.

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ADHOCISM



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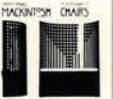
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Frank Lloyd Wright

Drawings 1887-1959

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Energy Book 2 — From the contents:
Wind energy: wind powered homestead, an electronic field control for a generator
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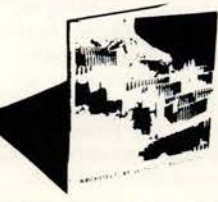


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A Short Introduction to Non-Pedigreed Architecture
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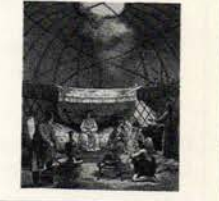
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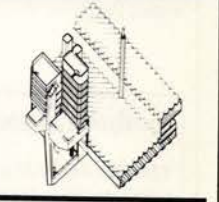
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The *AD PROFILE* on the Centre Pompidou is now being reprinted. Orders for this issue will be filled as soon as stocks are at hand.

The *AD PROFILE* on Ralph Erskine is being reprinted, slightly revised, with an additional introductory essay by Ralph Erskine. It will be published as a paperback printed on high quality art paper. For orders received before January 1st 1979 the price will be held to £5.95 +50p postage (\$12.90 including postage). This is an approximate price which is likely to increase after that date.

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BAIRD CUTHBERT MITCHELL

Low Energy Projects and Energy Conservation in Australia

The Practices

An appropriate theme for the central experience of this office over 20 years of practice, would be *survival*.

The necessary juggling, balancing, shrinking, and expanding for continued solvency are basic skills for a small architectural practice, and the lean, agile, and resilient form is good for survival.

This practice is limited to the three partners, who span two generations and hybrid activities, John Baird

(53 years) is a senior lecturer at RMIT (Royal Melbourne Institute of Technology) Faculty of Architecture and Building and is a part-time partner. John Cuthbert (33 years) was the 1971 Silver Medallist in Australia, and is a part-time lecturer at RMIT and a full-time partner. Colin Mitchell (32 years) is a recent graduate of RMIT, after 12 straitening years of night study, and is a full-time partner.

To minimise administration and

maximise flexibility, additional personnel needs are met by engaging selected people as consultants on a task basis.

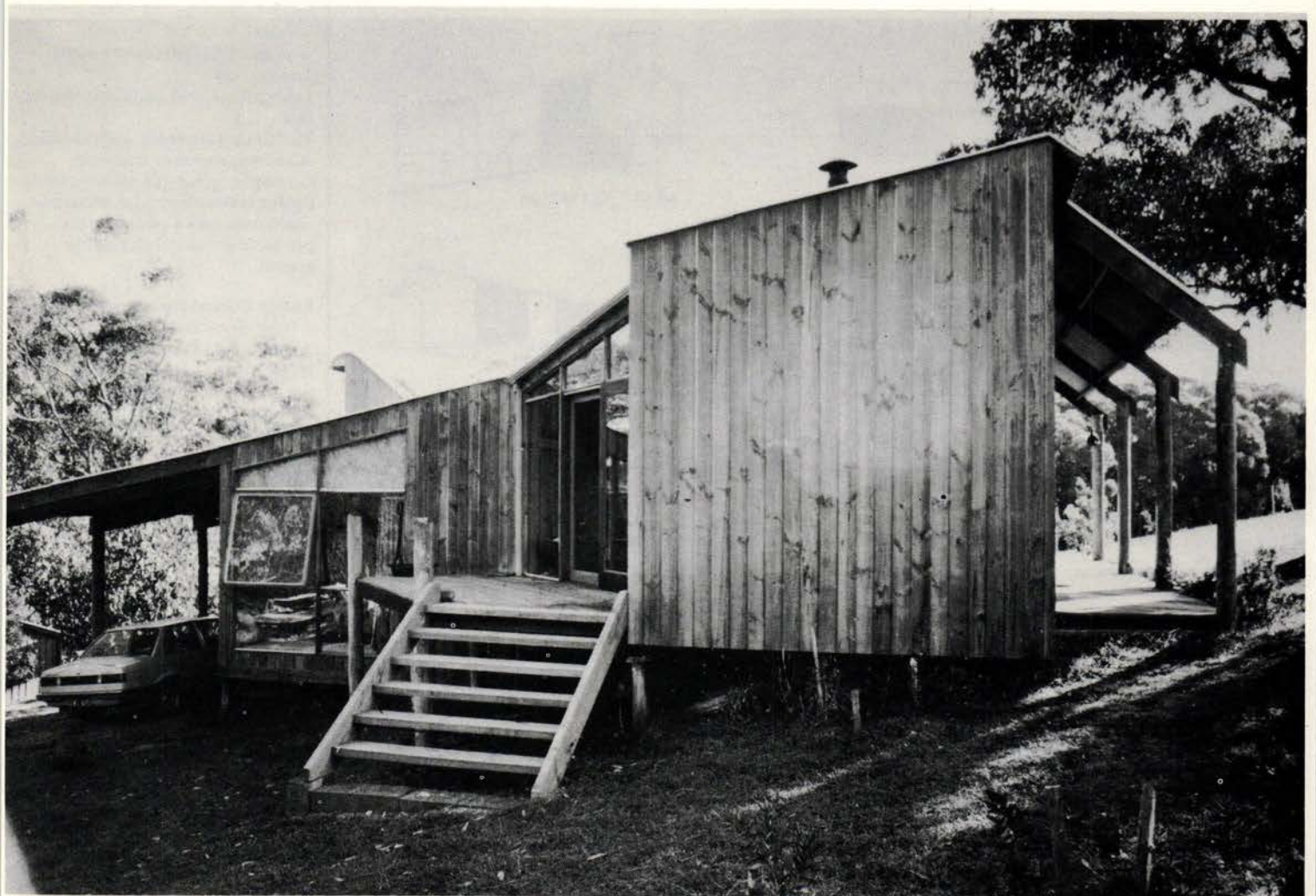
From modest beginnings at a kitchen table in the suburb of Beaumaris to the present time, the practice has continued a close contact with the aspirations and problems of its clients. A major concern is to evolve a practice which will reduce the institutionalised gap between the profession and the client, and to be an

effective instrument in change.

We believe that architects should be involved in the social and political debate within the community, and that their architecture should express this concern both as a functional component of the community's needs and as a symbol of its aspirations.

Our present work emphasises our concern for a community approaching a major change as a result of the continuing depletion of its natural resources.

Self-sufficient dwelling / Flinders / Victoria



Self-sufficient dwelling / Flinders / Victoria



Introduction

A rural site of 4.05 hectares without any reticulated services, the owners' desire for an independent life-style and the architects' and owners' interest in conservation of energy and resources were the principal design determinates.

The house is designed for full-time occupation by the parents and a teenage daughter; compact in plan for economy and convenience, oriented to existing views and north sun. Floor levels are split for zoning, economy, and to maintain a sympathetic relationship to the sloping site, and for direct rainwater collection. The house is constructed with minimum excavation and disturbance to natural ground cover and vegetation. Framing and cladding are timber, with strawboard ceiling. Materials were selected wherever possible from natural renewable 'crop' resources, to be in visual sympathy with the natural environment.

Stage of work:

Complete and occupied four days per week for last three years. Full-time occupation is anticipated shortly.

Cost of work:

Stage 1 (1974) \$A20 000
 Stage 2 glasshouse \$A2 000 (owner-built)
 studio \$A2 000 (owner-built)

Construction:

Timber floor, wall, and roof construction. Timber-clad internally and externally, in maintenance-free materials. Roofing is corrugated asbestos sheet. Ceiling is strawboard for insulation. Glasshouse uses a commercially produced industrial glazing bar system.

Energy Conservation Systems

1 Wind Generator Electric System:

A 3kw wind generator producing 110 volt DC power stored in twenty 6 volt (lead acid) batteries having a capacity of 120 amp hours. An inverter is included in the system to provide 240 volt AC power for limited appliances. An electric/gas refrigerator is installed, gas being used in times of low battery storage.

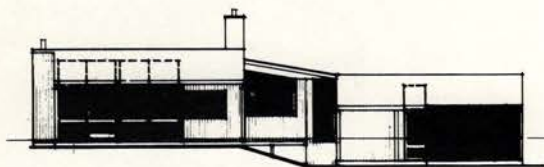
At the time of the generator installation, the electricity authority had quoted \$A2 500 to supply power to the site. The wind generator system purchase cost was \$A3 000. Maintenance has been minimal at this stage.

Performance to date indicates that additional electric power is being obtained over and above need.

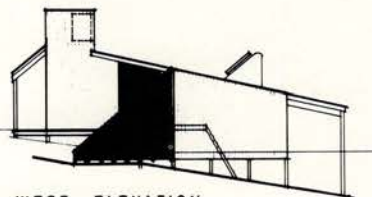
2 Rainwater System:

Rainwater is collected and pumped to an elevated header tank on a hill by a 110v electric DC pump. Water is then gravity fed to all points, including the solar hot water tank.

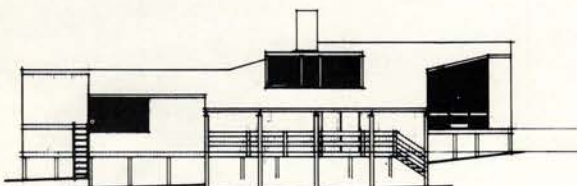
Cost: Tank \$A400
 Header tank \$A700



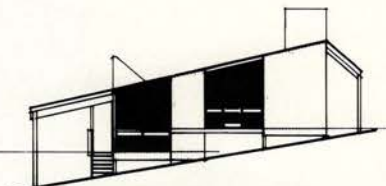
NORTH ELEVATION



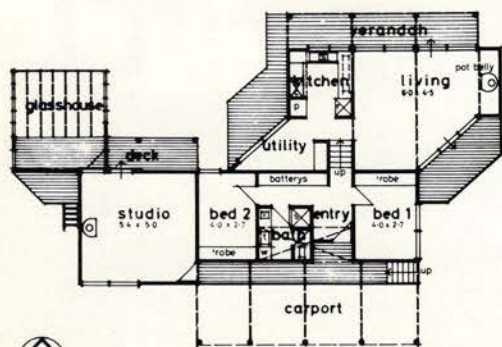
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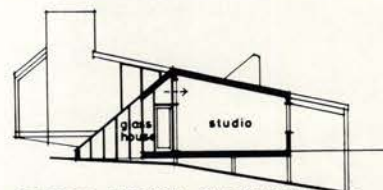
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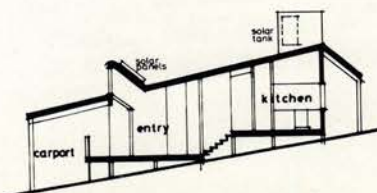
EAST ELEVATION



FLOOR PLAN



SECTION THROUGH GLASSHOUSE



SECTION THROUGH MAIN HOUSE

3 Solar Hot Water System:

An owner-built thermo-syphon hot water system is installed. The 270 litre insulated tank is located above the slow combustion stove. During the winter, the slow combustion stove is used as a booster for the hot water, while being used for cooking and some heating of the living space.

The three collectors mounted on the north-facing highlight roof are constructed of 12mm copper tubes brazed on .06 copper plate with 25mm copper header pipes and painted matt black. The plate is located in an asbestos box containing 75mm insulation and sealed with 6mm plate glass. Cost: \$A600

Performance data collected from the installation:

- Summer day: 82.2°C to 87.8°C (108° to 190°F) (in storage tank). Overnight drop to 65.6°C in morning after showering.
- Spring/autumn day (fine): 65.5°C to 71.1°C
- Winter day, sun: 48.9°C to 54.4°C
- Winter day, cloudy: 32.2°F to 37.8°C (90° to 100°F)

4 Heating Systems:

Living Room/Kitchen:

North-facing glass to the living areas provides warmth during sunny days, with a pot belly stove providing additional heating when required.

Currently under construction in the glasshouse are solar collectors and a 360 litre insulated tank, boosted by a pot belly stove located in the studio. The intention is to feed hot water to two water radiators located in the living room as a further heating system.

Estimated cost: \$A700 (owner-built)

Studio:

The studio is heated using the warm air from the glasshouse. The winter sun heats the air, which passes into studio through a sliding glass window at the top while drawing cool air from the studio through a lower vent. During the summer the hot air escapes to the outside air through a wide hinged vent at the top (beyond line of studio). The sliding glass window and bottom vent to the studio would be closed during summer. The glass to the glasshouse will also be white-washed in the summer.

5 Glasshouse:

The glasshouse is constructed of a simple aluminium glazing bar system and has several energy-conserving principles and operations.

- a) to extend the season and availability of vegetables grown in garden.
- b) provide heating to studio.
- c) provide additional hot water for heating, and especially to maintain
- d) even temperatures to assist in production of methane gas (described later).

It is envisaged at this stage that hot water coils will be built into the stone floor of the glasshouse to control possible fluctuations in temperature. Alternatively, the coil may be directly inserted into the digester.

6 Methane Digester:

A 400 litre tank with access hatch and visual level gauge will be located in the glasshouse. Externally, approximately 1.2m above tank is a platform supporting a 100 litre tank with water overflow, a kitchen sink, and insinkerator.

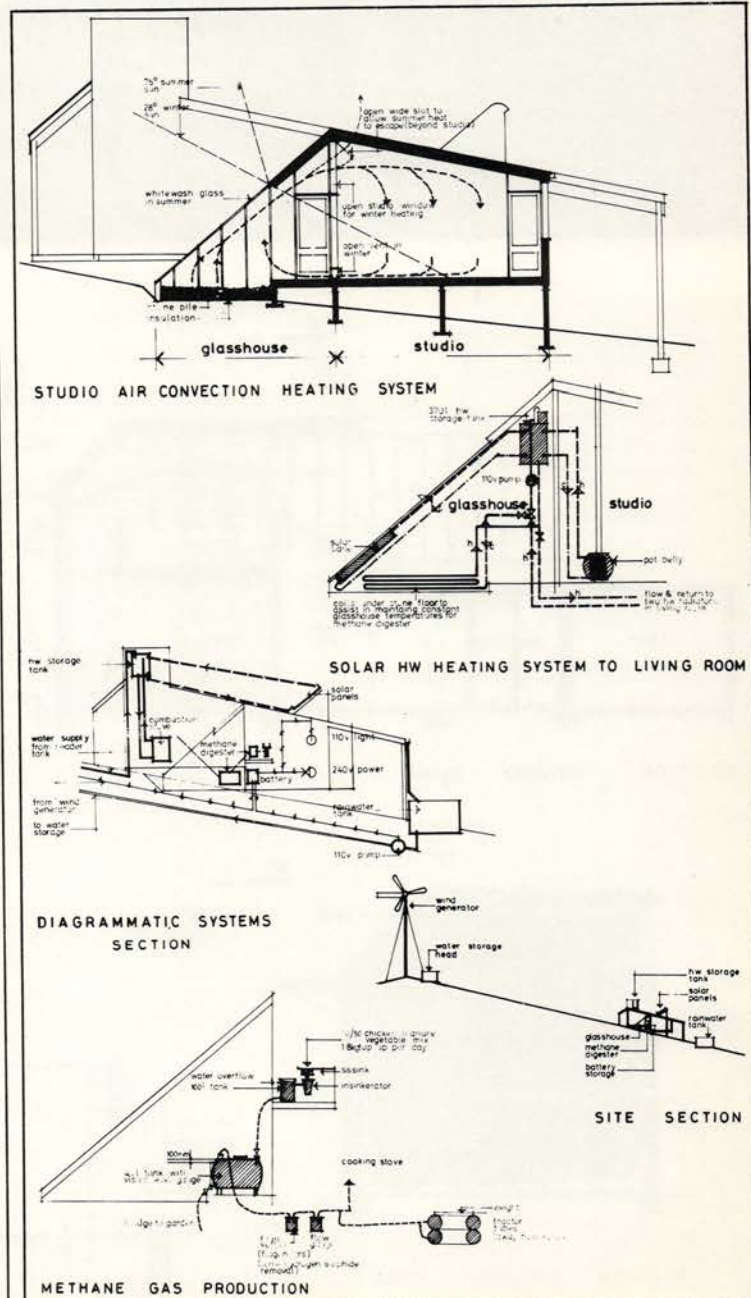
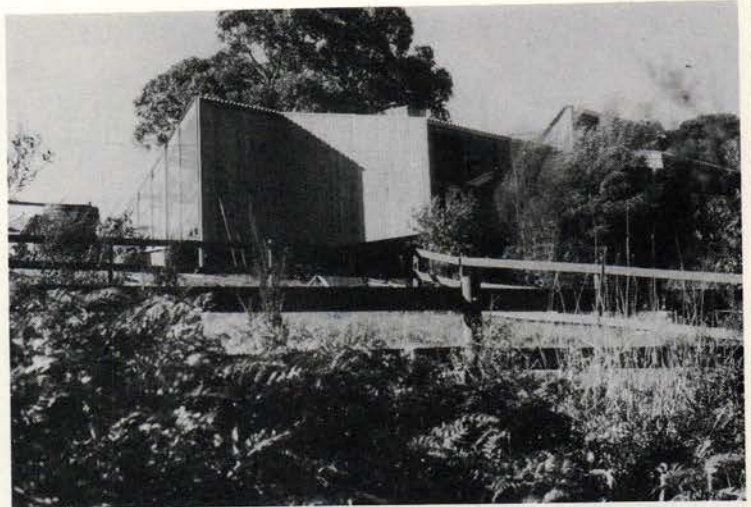
An anticipated 50/50 mix of chicken manure and vegetables will be fed through the insinkerator and into 100 litre tank. Once in operation approximately 1.8kg (4lbs) per day of the mixture will be fed to the digester through a control valve. Provision will be made to manually agitate the digester when required to break up the scum formation on the surface of the mixture. The sludge will be drawn off as required to fertilise the garden. Annual descumming of the digester is also anticipated. The gas will be piped to a foam settler and flow gauge jars (some hydrogen sulphide is also extracted). The methane is to be stored in tractor tyre tubes away from the house, and weighted to pressurise the system.

Methane gas will be piped to the cooker on demand. The gas produced is estimated to provide all summer cooking needs. The system is currently under construction and should be completed within one to two months of the date of this report.

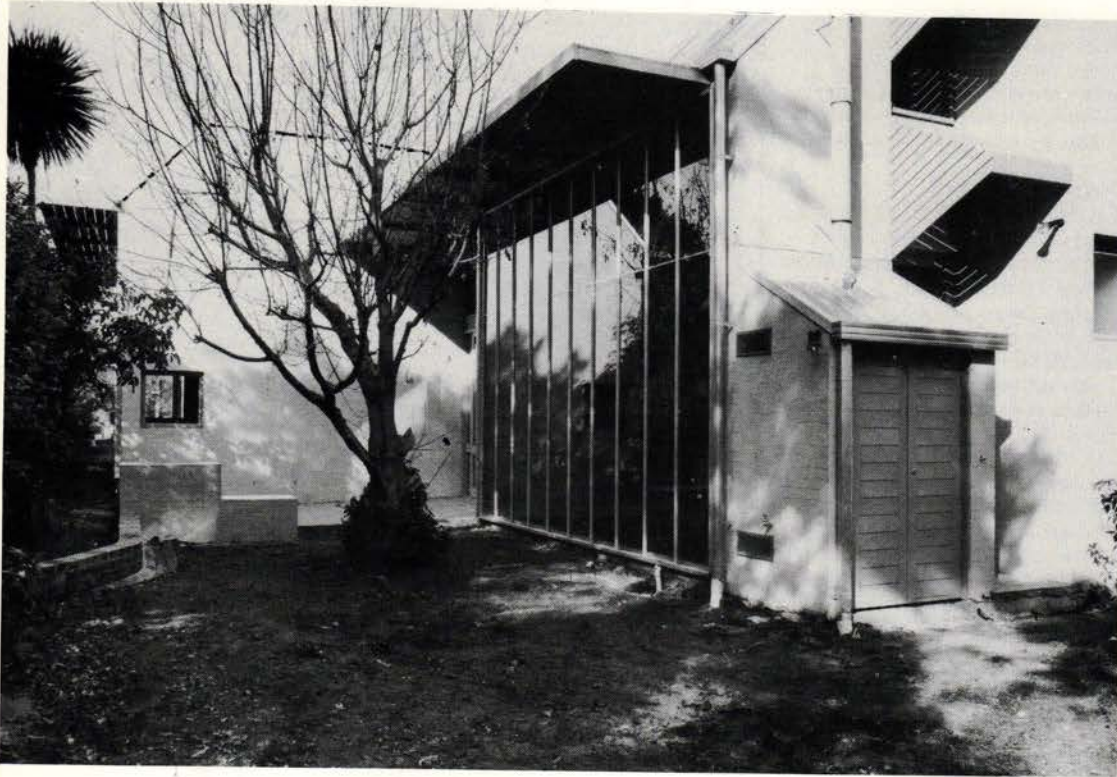
Estimated cost: \$A600 (owner-built).

Summary:

The aim of the owners is to ultimately achieve complete self-sufficiency. They currently produce their own electricity from the wind, hot water and heating from the sun, collect rainwater for all domestic needs, grow a large proportion of their total vegetable requirements, and hopefully produce methane gas for cooking. The owners intend to occupy the house full-time by the end of this year, and are preparing to adjust willingly and enthusiastically to their new life-style.

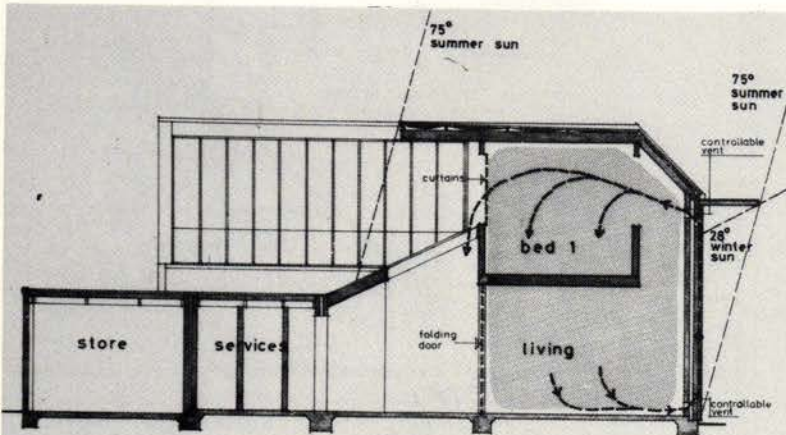


Thermal Wall Dwelling / Brighton / Victoria

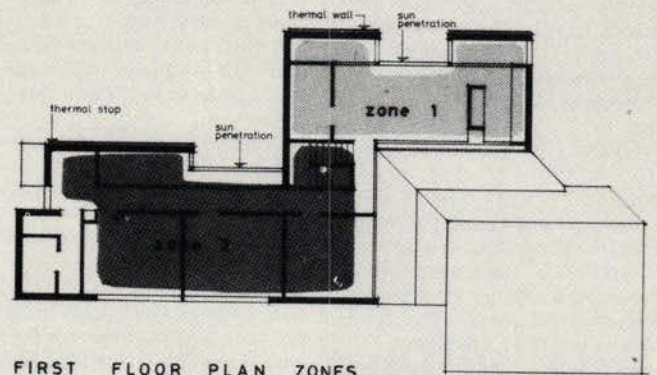


Introduction

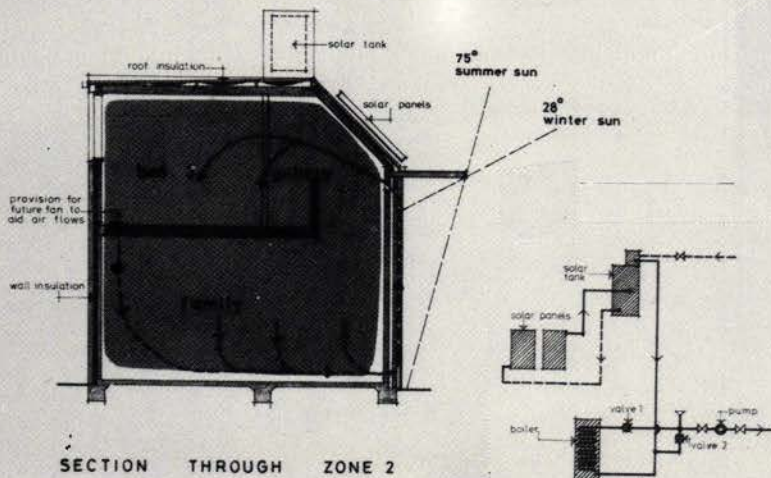
The basic requirements developed around the accommodation for two adults, two children, and a guest room for grandparents or guests. An intrinsic feeling of spaciousness and soft natural light was of utmost importance within simple forms and massing. Separation of the parents' area and the children's area was required, but still within convenient proximity. A great deal of usable wall space was required for hanging paintings and locating furniture items. The parents' bedroom overlooking the formal living area, and the children's bedrooms overlooking the family room, provided the required zoning and spaciousness and the opportunity for an integrated heating system by natural convection. Site constraints and the required provision for a future pool dictated a two-storey structure built around the single-storey garage to the south-east. An optimised glazed link between the main two-storey structure and the carport can be thermally zoned from the formal living area and the family area. The areas under the roof glazing are of low-frequency occupation, but provide the added space to the more



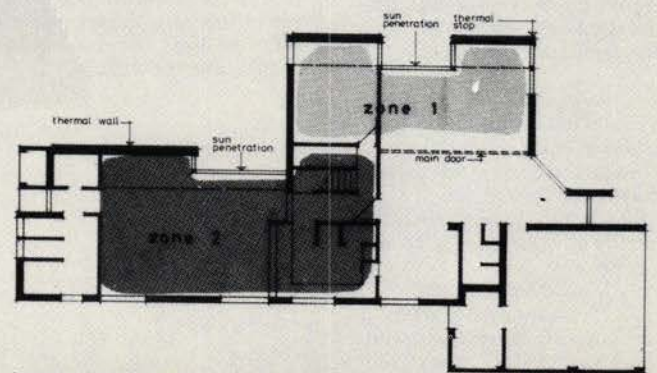
SECTION THROUGH ZONE 1



FIRST FLOOR PLAN ZONES



SECTION THROUGH ZONE 2



GROUND FLOOR PLAN ZONES

intimate living area under the parents' bedroom. The kitchen is centrally located between the parent and children zones, with a required view of the family area.

The thermal wall construction includes:

- cavity insulation
- thermal stops
- glazing bar system
- vents
- black paint on wall

This represents a cost of less than 5% of the total dwelling cost. The 360 litre solar hot water system, valves, pump, and installation cost is also included in this figure.

Construction:

- a) Concrete ground floor raft slab
- b) Brick-cavity ground floor
- c) Brick-veneer first floor
- d) Timber-framed first floor
- e) Timber-framed roof construction
- f) Metal deck roof
- g) Plasterboard lining and painted brickwork internally, and painted brickwork externally.

Insulation:

Roof: 75mm blanket insulation with double-sided aluminium foil both sides.

Walls: cavity brick - urea formaldehyde (except north wall); brick-veneer - aluminium foil plus urea formaldehyde.

Energy Conservation Systems:

1 Thermally Integrated Design Principles:

The building has been orientated with living spaces to the north for winter sun penetration and maximum winter sun exposure of thermal walls.

The building mass incorporates concrete slab, external pressed clay cavity brick filled with urea formaldehyde (except thermal walls).

The roof has 75mm blanket insulation with two layers of double-sided aluminium foil.

2 Thermal Wall Principles and Back-up Heating:

Construction of walls:

- pressed clay bricks 63mm wide cavity
- outer skin painted matt black
- industrial glazing fixed over wall
- Controllable vents top and bottom
- thermal stop at ends of walls.

Thermal Zoning:

- Zone 1: living, study, bed 1
- Zone 2: family, kitchen, bed 2,3 and 4

Thermal Wall Principles:

Summer:

- close vents in thermal wall top and bottom to seal up cavity
- eaves control to minimise radiation on wall
- soft landscaping to further

minimise the effect of reflected and indirect radiation

Winter:

- open vents in thermal wall top and bottom
- close bed 1 heavy curtain, and folding door to living/entry

Quick response: sun's radiation heats air between glass and brick to be expelled into building at top of wall. Cool air replaces main air through bottom cavity by natural convection. Longer response: same effect applies to brick cavity when outer skin heats up and re-radiates heat to the cavity.

Monitoring of Wall: Special monitoring equipment has been installed at three levels in the thermal cavity to monitor the temperature gradient up and across the thickness of the outer brick skin. The data will be transmitted in telephonic form by means of frequency shift keys to the RMIT Department of Electronics Technology.

Principal Back-up Heating: Gas-fired boiler, hot water coil in slab system. A thermostatically controlled gas boiler pumps hot water around coils in the concrete slab as the principal back-up heating system.

3 Solar Hot Water System:

Supply and installation:

Autonomous energy systems

Equipment:

- 360 litre solar tank
- two 2 000 x 1000 solar panels

System:

Thermo-syphon boosted by gas boiler. Hot water is circulated to outlets by a small pump which operate on demand to increase the water pressure.

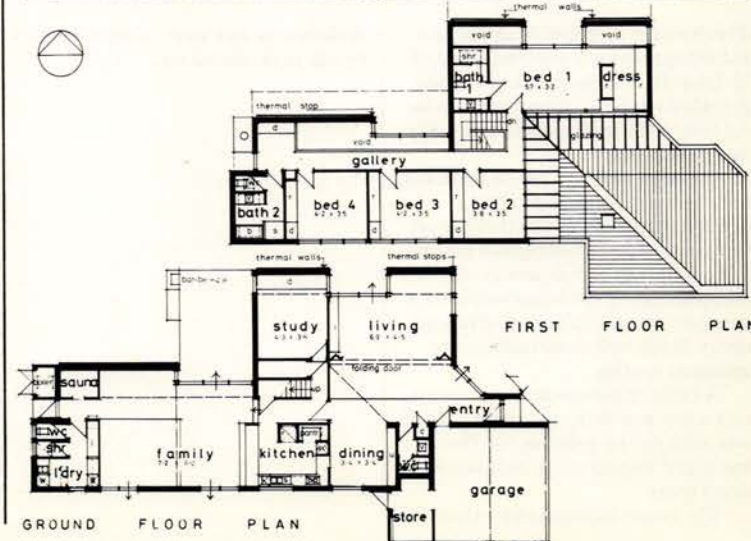
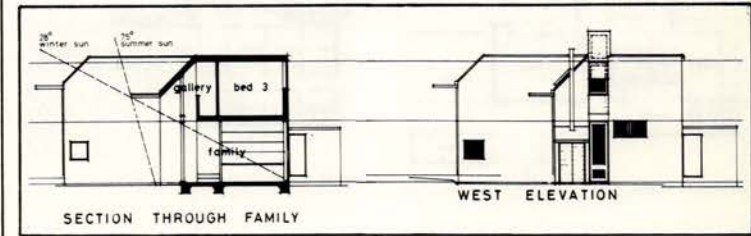
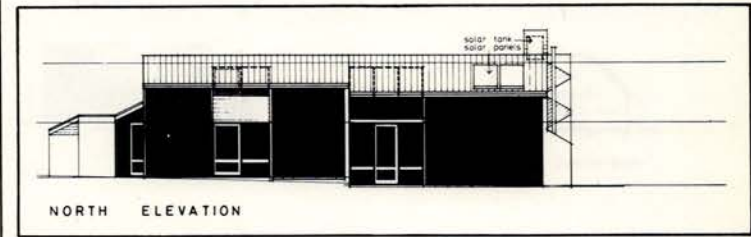
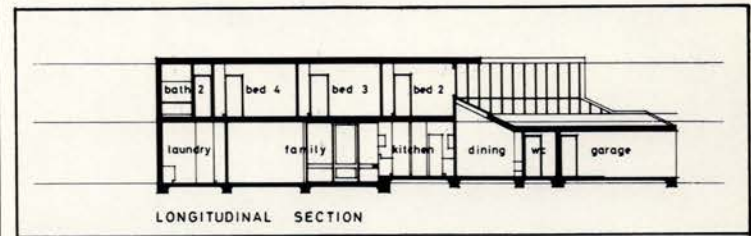
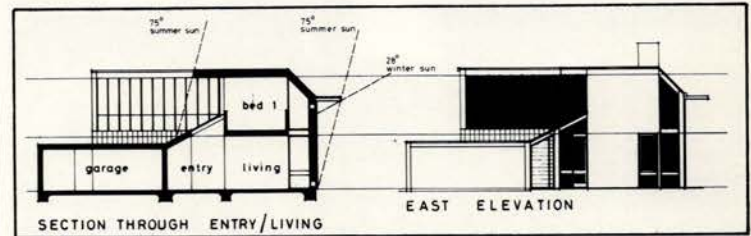
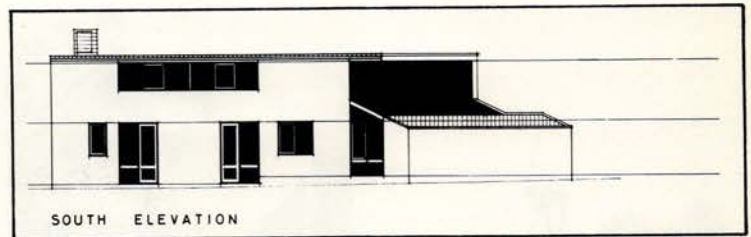
Boosting method:

Gas boiler with larger than normal coil to lower resistance. Manual operation during change of season by valves (refer diagrams).

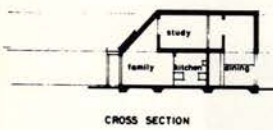
The aim of this system is to maximise the use of solar energy throughout the year and minimise boosting by gas.

Summary

The house is designed for maximum use of the sun for hot water and heating, and minimum use of fossil fuels for day-to-day living; and incorporates thermally integrated design principles. It is not known to what extent the thermal wall principle adopted will contribute to the overall heating requirements of the residence in Melbourne. The installation is an empirical exercise which the owner was keen to support. Some possible overshadowing during part of the day was realised as an inherent problem in this type of system.



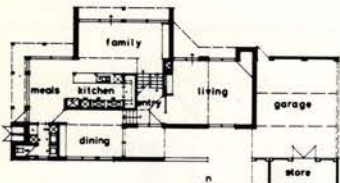
Malvern/Victoria



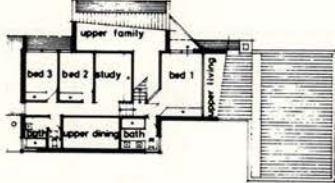
CROSS SECTION



NORTH ELEVATION



GROUND FLOOR PLAN



FIRST FLOOR PLAN

This house is a typical example of a redevelopment in a suburban area of Melbourne. The long axis of the site provided the ideal opportunity to incorporate the principles of thermally integrated design.

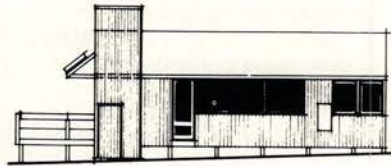
The selection and use of materials was carefully considered after a computer analysis of the thermal performance of the building as a passive solar collector. Subsequently, the construction of the house included a concrete ground slab, well-insulated, cavity block wall construction and insulated roofing.

A main requirement was to maintain a low profile to the street, which was achieved by splitting the floor levels and sloping roofs over the main living areas.

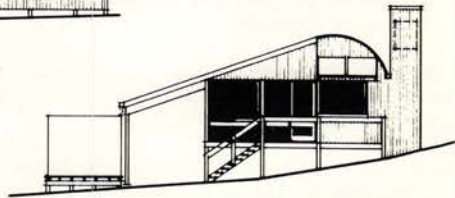
The house incorporates a thermo-

syphon solar hot water system boosted by off-peak electricity.

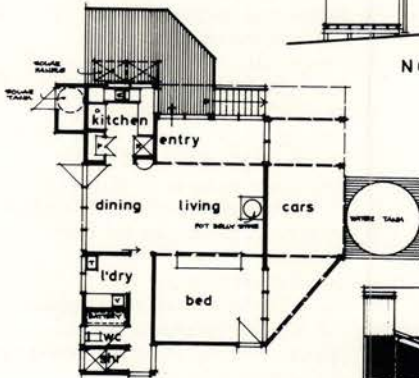
Strath Creek/Victoria



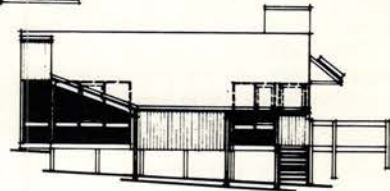
WEST ELEVATION



NORTH ELEVATION



FLOOR PLAN



EAST ELEVATION

An unserviced site and a limited budget determined the need for a simple building envelope capable of future extensions.

Construction is timber-framed, clad externally with treated pinus, and roofed with corrugated iron. Internally the ceiling is lined with strawboard, which also acts as insulation. Walls are lined with asbestos cement for economy. The house is currently under construction.

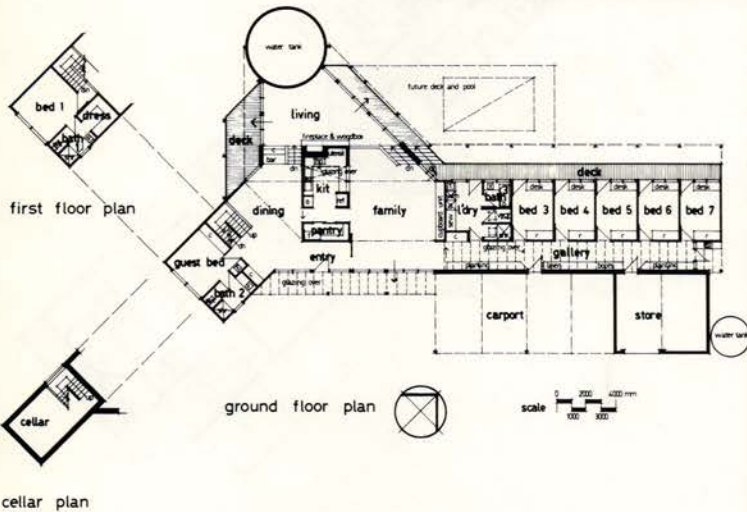
Energy conserving devices include: A 110v, 200 watt generator with twenty 6v 90 amp hour batteries for storage is to be installed. The system is designed to allow for a sine wave inverter for limited use of 240v AC appliances.

A 360 litre thermo-syphon solar hot water system is to be installed and

boosted by a slow combustion stove. The panels and tank are located in close proximity to the kitchen stove. Heating is provided with a pot belly wood stove.

All rainwater is collected in a 45 500 litre tank for all domestic needs.

These projects have been selected and assembled by **Alain Gerrand**, who studied architecture & Building at Melbourne and has worked there and in Europe and America on various energy conservation projects since the early 70s. In the UK he has worked for Low Impact Technology and Low Impact Design and currently works with the Natural Energy Centre in Kingston. In 1976-77 he worked with Baird, Cuthbert & Mitchell in Melbourne.



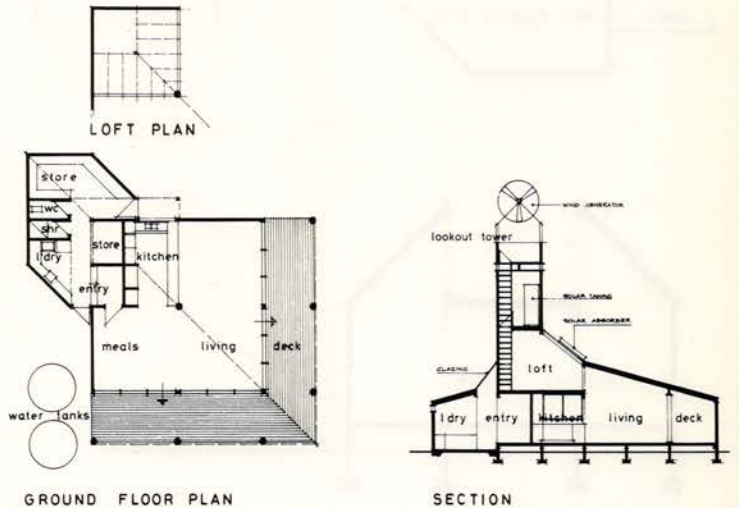
The basic requirements for this dwelling developed around a family of two parents, five children, the requirement for open planning, separation of children's sleeping zones from parents' sleeping zones, and the need to collect all rainwater for domestic needs. The site is located in the foothills of Warrandyte and is heavily treed.

Conceptually the house comprises an access spine linking the entry with children's bedrooms and services and parents' and guest sleeping areas, with their own services, along the south side. The parents' wing is located over a sunken cellar. The centrally located kitchen, opposite the entry, opens to the family room and the dining room at the same level. Both these areas overlook the living

room, which has glass walls opening onto decks. The concrete water tank forms one wall of this space. The house is heated by a gas-fired boiler coil-in-slab system.

Construction is of concrete blocks and timber frame, clad with western red cedar; floor construction is a suspended concrete slab. Timber-framed, metal decked roof is well insulated. All external materials have been left untreated to weather naturally and to blend with the native environment.

In terms of energy conserving ideas, the house has a solar hot water system, boosted by either off-peak electricity or the open fireplace located in the living room. All rainwater is collected in a 910 000 litre concrete water tank.



The site is a 200 acre farm behind the coastal dunes of Bass Strait, and the building is to provide for the part-time needs of the four families who own the farm and share leisure and rural interests together.

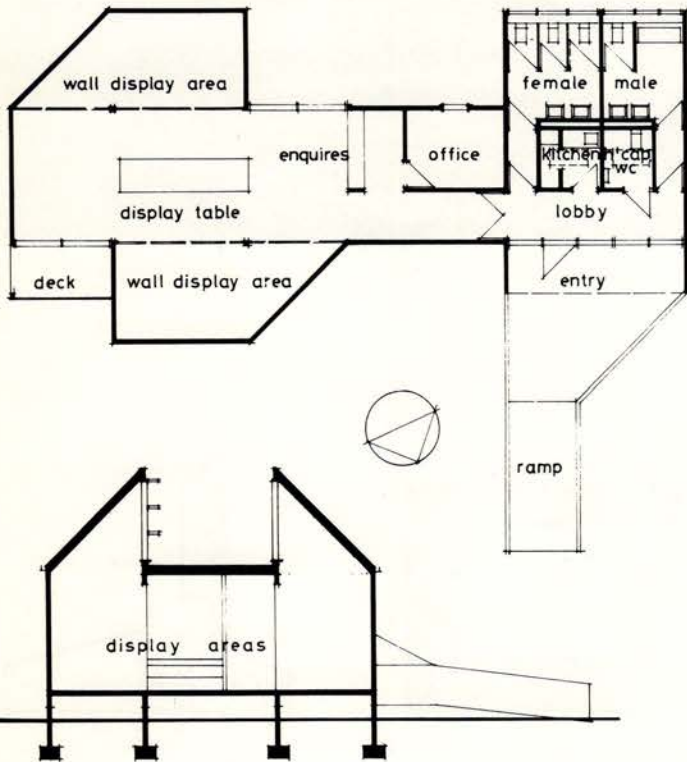
The building provides living, cooking, and meals, ablution, and some mezzanine sleeping areas. It is timber-framed and clad and is roofed with corrugated iron. The tower contains hot and cold water tanks, and will be used to mount a wind generator above tree height, and for fire observation and enjoying ocean views.

A thermo-syphon solar hot water system is provided at the base of the tower, which will be boosted by a coil in a pot belly stove. A 12v 200 watt wind generator will be mounted

on the top of the tower to provide power for lighting.

The land use potential of the farm is being analysed and developed for food and fuel production.

Info Centre/Phillip Island



Designed by John Baird, on behalf of the RMIT Faculty of Architecture and Building, Practice Group.

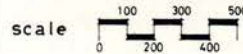
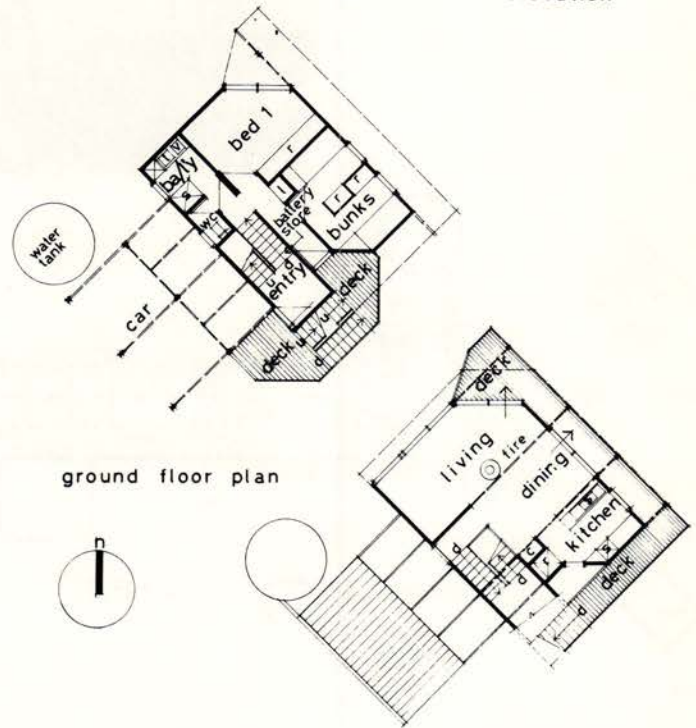
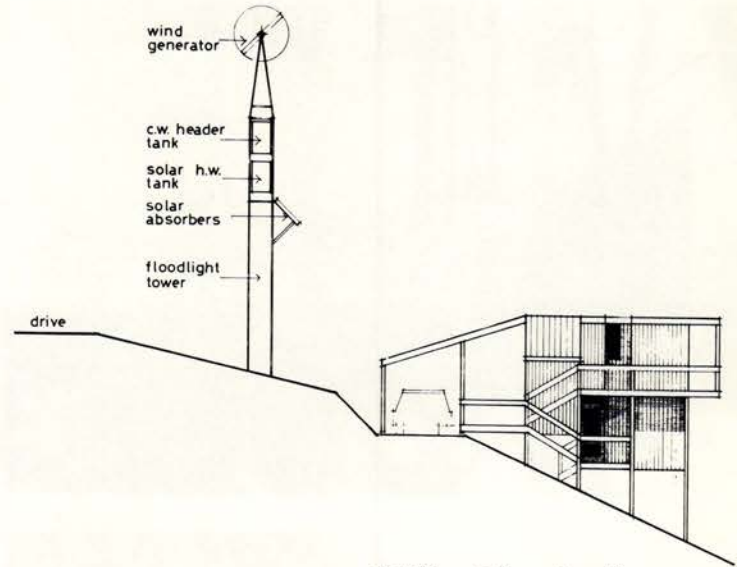
Phillip Island in Bass Strait attracts the greatest concentration of tourists (approaching 2 million per annum) in the state of Victoria. As a result, its sensitive coastline and its wildlife habitats are under constant human assault.

The information centre was built jointly by Phillip Island Shire and the Ministries for Conservation and Tourism, as an interpretive centre for visitors to the island. It aims to inform people of the island's ecology and human intervention and to increase understanding as a means of protecting the island's natural resources.

Framing and fenestration is laminated treated pinus components, clad inside and outside with treated pine boarding, and roofed with corrugated iron.

The thermo-syphon solar hot water system is boosted with an electrical element, but the solar unit provides a high percentage of hot water needs, as most visitors use the centre over the warmer months.

Residence/Eildon/Victoria



A magnificently treed, steeply sloping site overlooking the Eildon Reservoir, with no reticulated services, was the setting for minimum accommodation dwelling.

The concept is a simple compact design based on a vertical zoning principle in response to the steeply sloping site.

Energy conserving principles: Rainwater is to be collected for all domestic needs.

The site location is down hill from

the main mountain ridge, and therefore winds were restricted.

A standard floodlight tower to lift the generator above tall native trees is proposed, to mount the 12v 600 watt generator for electricity, cold water tank, solar tank, and solar panels for the cold water and solar hot water systems for the house. An alternative scheme using solar cells for electricity is also being considered. If adopted, the solar systems can be located on the roof of the dwelling.

Introduction

A 19.02 hectare grassland site, with easterly views, the owners' desire for a self-sufficient life style, accommodation for two parents, two teenage boys, and an elderly mother, were the main design determinates for this residence.

Estimated Cost: (at Sept 1977)

Residence 139m² \$A45,850
 Glasshouse 22m² \$A3,300
 Carport, w/shop 67m² \$A10,200
 Total \$A59,350

Estimated Costs of Systems:

Solar hot water \$A1,000
 Water tank and pump \$A800
 Wind generator system \$A5,700
 Pot belly stove \$A500

Construction:

Based on the principle of passive thermally integrated design with:

- Concrete raft slab insulated at the perimeter.
- Solid brick-cavity external walls, insulated full-height.
- Brick internal wall to south of living area.
- Quarry-tiled floor to living area.
- Timber stud walls internally elsewhere.
- Timber-framed roof insulated and clad with metal decking.
- Glasshouse-aluminium glazing bars system, stone pile base.

Insulation:

Brick-cavity walls: urea formaldehyde
 Roof: 2 layers of double-sided aluminium foil, around 75mm blanket insulation.

Energy Conservation Systems:

1 Thermally Integrated Design

(Principle developed by A Coldicott and T Williamson of Melbourne University).

The building has been orientated to the north for maximum winter sun penetration. Openings to west, east, and south have been minimised. The mass of the building incorporates a concrete raft slab on ground insulated to perimeter with polystyrene to prevent heat losses. All external walls are pressed brick-cavity construction. Cavities are filled with urea formaldehyde for insulation. The south wall of the living/meals area is also pressed clay brick. The concrete floor is to be quarry-tiled to store passive day heat and used as a night-time radiator. Curtains would be drawn across windows at night. A pot belly fire and slow combustion stove will provide additional heating.

2 Glasshouse Principles:

The glasshouse construction incorporates aluminium glazing bar system to roof and walls, a stone pile floor, and timber louvres for summer sun control.

Winter heating operation:

- open doors from glasshouse to living area
- close glasshouse top vent
- warm air moves directly into living space from glasshouse

- heat in glasshouse is stored in stone pile
 - north sun penetrates living space heating tiled floor and brickwall
 - a pot belly stove provides additional heating when required.
- Summer ventilation operation:**
- open windows of glasshouse to north
 - open top vent of glasshouse
 - open bottom vent of living/meals
 - open windows of sleeping zones
 - timber louvres stop hot summer sun entering glasshouse
 - warm air moves up and out top vent, drawing air across and through living area.

3 Solar Hot Water System:

A 360 litre insulated tank situated 300mm above two solar panels of 2m² each provide a thermosyphon system. Hot water is gravity-fed to all points in insulated pipes. The system is boosted during cold periods by the slow combustion stove.

4 Rainwater Collection:

Rainwater will be collected and stored in a 45 5000 litre tank at the eastern end of building. Water is pumped to outside by a small electric pump which operates only on demand.

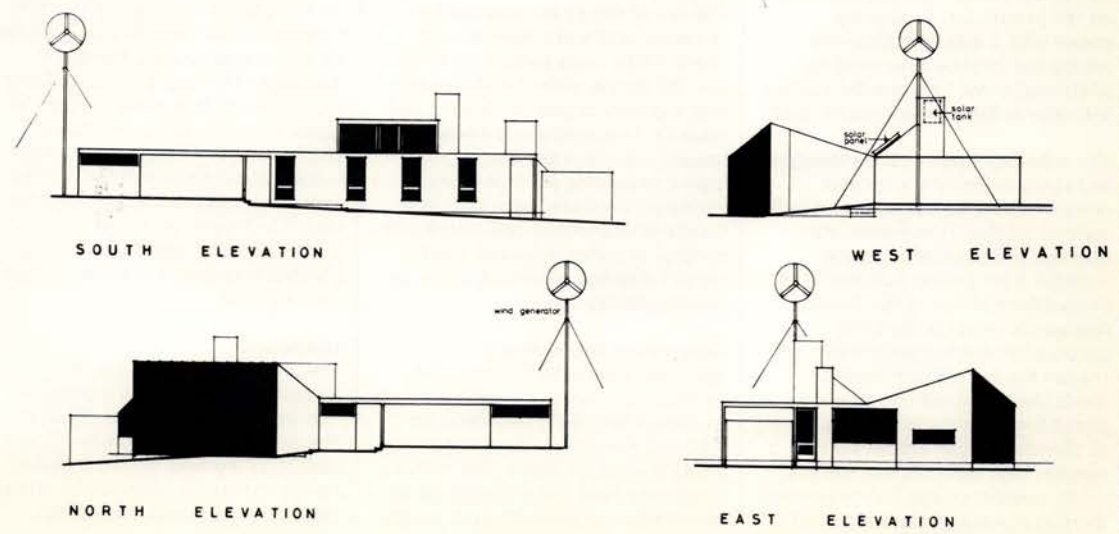
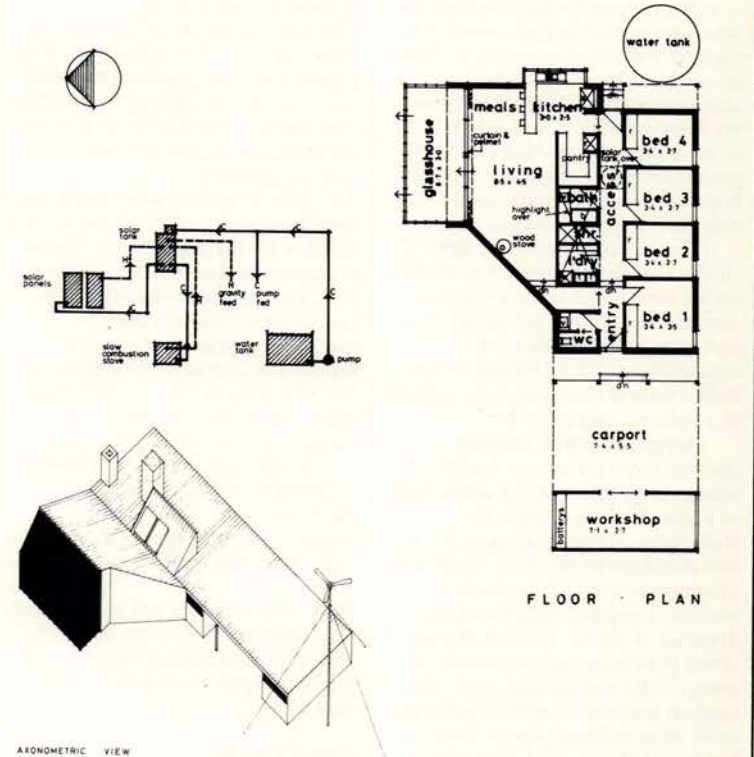
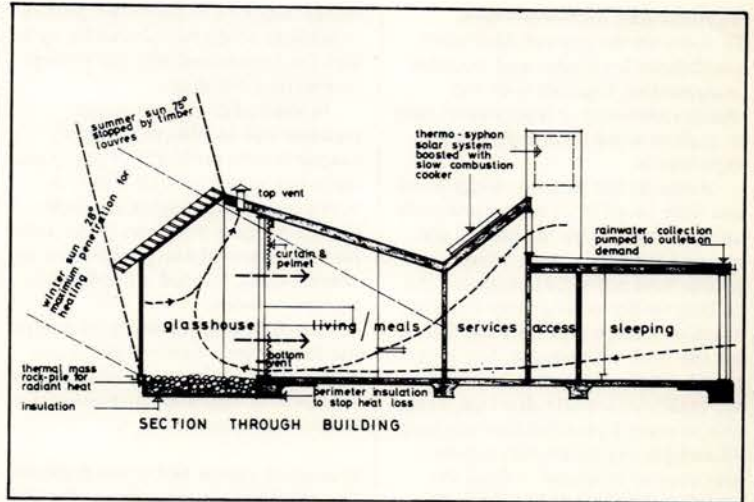
5 Wind Generator System:

A three kilowatt wind generator producing 110v DC power stored in twenty 6 volt (lead acid) batteries having a 200 amp hour capacity is proposed. An inverter for limited 240v AC power is also proposed.

The electricity authority have quoted a figure of \$A4 000 to supply power to the property, although \$2 600 is refundable on completion and the further \$A1 400 refundable when the neighbouring farm is connected.

Summary:

The residence has been designed to maximise the use of natural resources in the sun, wind, rain, and wood, and to eliminate reliance on reticulated services. Materials used in the house are low-maintenance items.



ENERGY CONSERVATION

An Australian Architect's view
To focus on the current Australian possibilities for energy and resource conservation, together with the changes necessary, it is important first to explore some local attitudes and experiences.

Australia has been much exploited and little loved from within and without, particularly by the mining and pastoral industries. Australians as a people have not yet experienced the chilling reality of an energy crisis as much of Europe and USA did following the Arab oil embargo. Nor have they been encouraged to experience the reality of a world shortage, being able to enjoy a plentiful flow of cheap oil and gas. Attitudes vary across a spectrum of extremes — from the traditional expectations of continuing growth and plenty, to a minority of educated and disillusioned young, who have opted for their own ark of survival. Federal government policies and statements on economic and social expectations appear to favour the former position, and as belatedly as the middle of this year (28/5/78) announced their intention to set up a National Energy Council from which may flow a national energy policy.

It is not surprising in the light of all this that the community is divided on the issues, that there is a lack of common motivation for energy conservation, and that the work of organisations and individuals in the field is neither coordinated nor related to a national energy policy.

Energy use within the built environment in Australia needs to be seen in the context of the urban form of major Australian cities. In Melbourne, a typical example, houses are spaced out in suburbia at a density of approximately 25 people per hectare, compared with European densities of 50-70. This low density urban pattern increases virtually all energy costs and consumption. The random post-war growth of suburbs, away from existing railway services, has meant almost total dependence on the private car. A planning policy with a major emphasis on zoning has increased the need for additional travel between the various activities of home, work, and leisure.

The suburban house, poorly designed and rarely oriented for thermal comfort, sits detached in its own well-watered garden. It expresses the ultimate pacification of nature, together with a blind defiance of the natural laws of one of the driest continents on earth. Post-war commercial development in the city centres has increasingly tended towards the use of tall free-standing glazed towers, using massive quantities of air-conditioning against blazing summer heat and cold wet winters.

By sensible design for climate and thermal efficiency, the amount of

energy required to produce comfort conditions could be reduced by up to 80% for houses and 40% for average commercial buildings.

Interested groups, including planners and architects, are now examining the problems of the existing urban structure with a view to developing energy-saving strategies. Crucial to these strategies is the need for denser, mixed-use, people-oriented communities, located around public transport nodes.

The following summary of energy use factors and conservation action within the built environment must be seen as over simplified and indicative rather than exhaustive:

How much energy and where deployed

The official Australian figures for our recoverable resources are about:

35 years for gas and oil

400 years for black and brown coal

These estimated periods are based on present day consumption rates, and do not take into account the existing exponential growth of consumption, nor the increasing export markets in both coal and gas.

Australian primary energy usage has been estimated for 1973-74 as a total of 2.5×10^{18} J, deployed in the proportions of industry 55%, transport 25%, commercial, residential, and institutional buildings 20%.

Secondary energy usage by residential and commercial buildings for 1973-74 totals 0.23×10^{18} J, and deployed in the proportions of: electricity 45%, oil 35%, gas 20%.

The percentage of energy used in different domestic areas in three major states is as follows:

Victoria: space heating and cooling 35%, water heating 35%, other uses 30%.

NSW: space heating and cooling 21%, water heating 41%, other uses 38%, Queensland: space heating and cooling 10%, water heating 46%, other uses 44%.

Future Trends

The use of energy in buildings has increased, and will continue to increase whilst costs remain relatively low and supply plentiful and people seek a greater degree of comfort and amenity. Increased use of whole house heating, electrical appliances, and heated swimming pools in domestic buildings, combined with the rising standards of comfort and amenity demanded in commercial and institutional buildings, all contribute to increasing energy use.

Government Intervention

The Commonwealth Government conducted an enquiry in 1976 through its Senate National Committee on National Resources. There is not yet a national energy policy, but rather a continuing faith in the 'market place', with its central mechanism of supply

and demand.

The Victorian Government published a 'white paper' on energy in 1974, followed recently by a 'green paper', and is conducting a Joint Parliamentary Committee enquiry into Victoria's energy resources at this time. None of these initiatives to this time has been followed by publicly discernible conservation action.

Governments have a number of options through fiscal and regulatory procedures to influence the use of energy within the community, all of which have social implications. Implicit in the need for social change is the need for human understanding, and it is to be hoped that future government policies and laws will combine a comprehensive and sustained educational programme.

Government Departments and Organisations

The CSIRO (Commonwealth Scientific and Industrial Research Organisation) and the Commonwealth Experimental Building Station have conducted important research into thermal behaviour of buildings and building design for Australian climates, and have published many technical studies and guide documents over the last 30 years. Very little of the good sense and basic design advice of these publications is expressed in the built environment produced over this period.

The Commonwealth Department of Environment, Housing and Community Development is currently publishing a *Comprehensive Australian Handbook of Dwelling Design and Construction*. It is to be hoped that this will be supported by a sustained educational and promotional campaign and that some of its provisions become mandatory within building regulations, which to this time have been largely concerned with health and safety.

The National Capital Development Commission has sponsored a study on low energy housing, with a view to writing performance standards for its design consultants. The South Australian Housing Trust is building two adjoining houses with identical plans; the one with conventional finishes and services, and the other insulated and fitted out for thermal efficiency and low energy consumption. The houses are to be occupied by two families, and their social and physical response is to be monitored over a period.

Institutions

The Australian Institution of Engineers has published a report, 'Recommendations for an Energy Policy for Australia'. The task force and its 12 working parties included energy experts in engineering, science, and economics from consultants,

government departments, and research bodies. The report, which could be said to be comprehensive and pragmatic, accepts the status quo position of a capitalist, growth-oriented society. The Royal Australian Institute of Architects is currently preparing a Draft Policy Statement on Energy Conservation in Buildings. It is hoped that this will be supported by guide documents for building design and management, together with short courses for practitioners.

The Architectural Schools

(The following comments are largely based on the writer's RMIT experience). Students, as could be expected, express a greater concern and awareness for the complex and inter-active political, social, and economic nature of energy and resource conservation; and, as a generation, appear to be more able to consider the necessary adjustments to social and consumption habits, to living patterns, and to values necessary to meet the sort of conservation which could lead to a new equilibrium. Much of the emphasis in the schools today is concerned with conscience-making, rather than problem-solving, which may be seen as a necessary form of confusion, before real change can take place.

Practising Architects

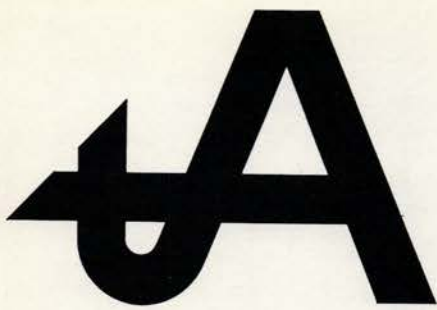
Much of low energy design is in the domestic field, and falls generally within two basic approaches, or is a combination of both. The 'passive' systems approach — which is concerned with the subtleties of climate, orientation, insulation, and mass etc — and the 'active' systems — concerned with solar collectors, energy transfer, and sophisticated plumbing.

A cohesive approach to design within the profession which considers energy conservation as a critical emphasis is yet to emerge.

Alternatives

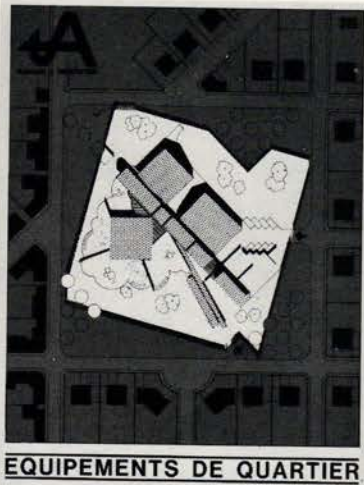
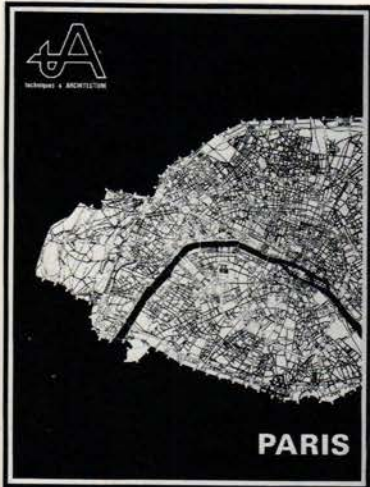
An increasing minority of educated young people are moving out of the cities, building their own houses of mud brick and timber, growing their own food, and in some cases revitalising old country communities or creating new ones. Most suffer official neglect and sometimes hostility, but seldom encouragement: there are no 'alternative living' zones planned, nor government land grants for these new 'pioneers'. (There is also the counter movement of the continuing drift of young country people into the cities.)

John Baird



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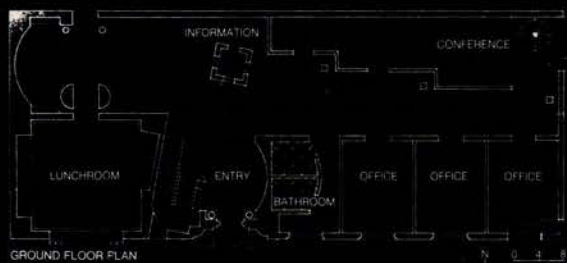
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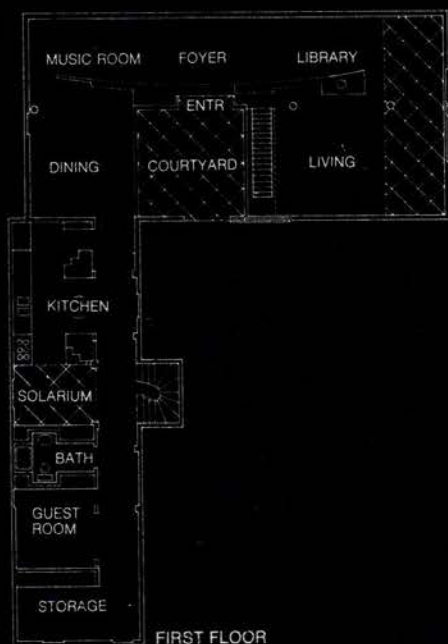
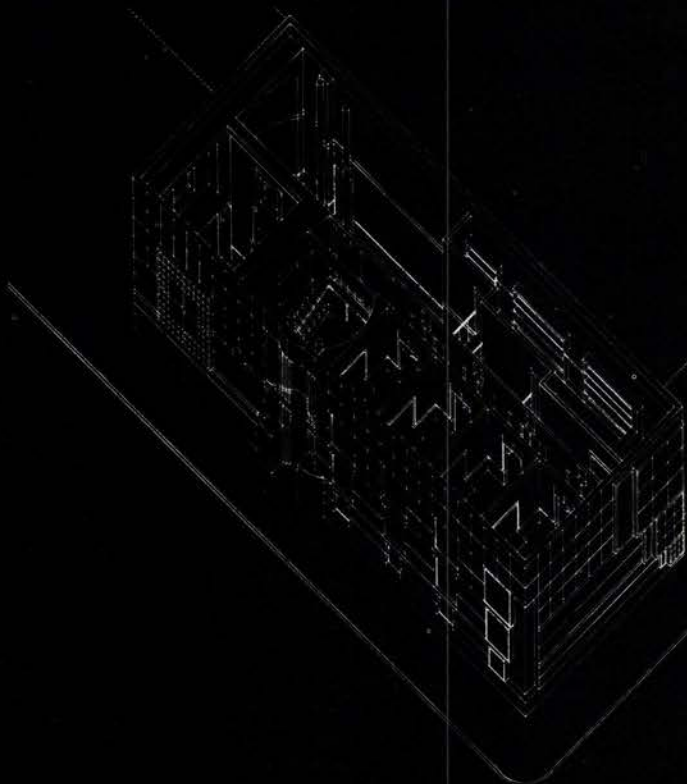
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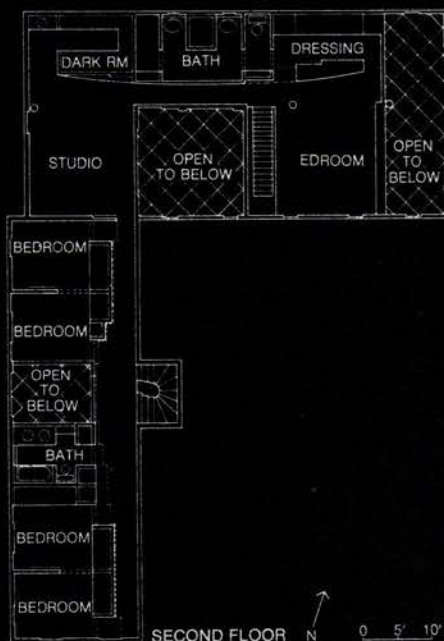
GROUND FLOOR PLAN



SECOND FLOOR PLAN



FIRST FLOOR



SECOND FLOOR

Two Buildings by Michael Graves have received design awards in the 25th annual *Progressive Architecture* Awards (*PA* 1/78). The judges included Charles Moore and Richard Meier.

Above are Graves' proposals for a new wing to a factory in Newark. On the left are the plans of his own house, which is a warehouse conversion, and which was featured in *AD* 6/77 as the colour centre spread to that issue.

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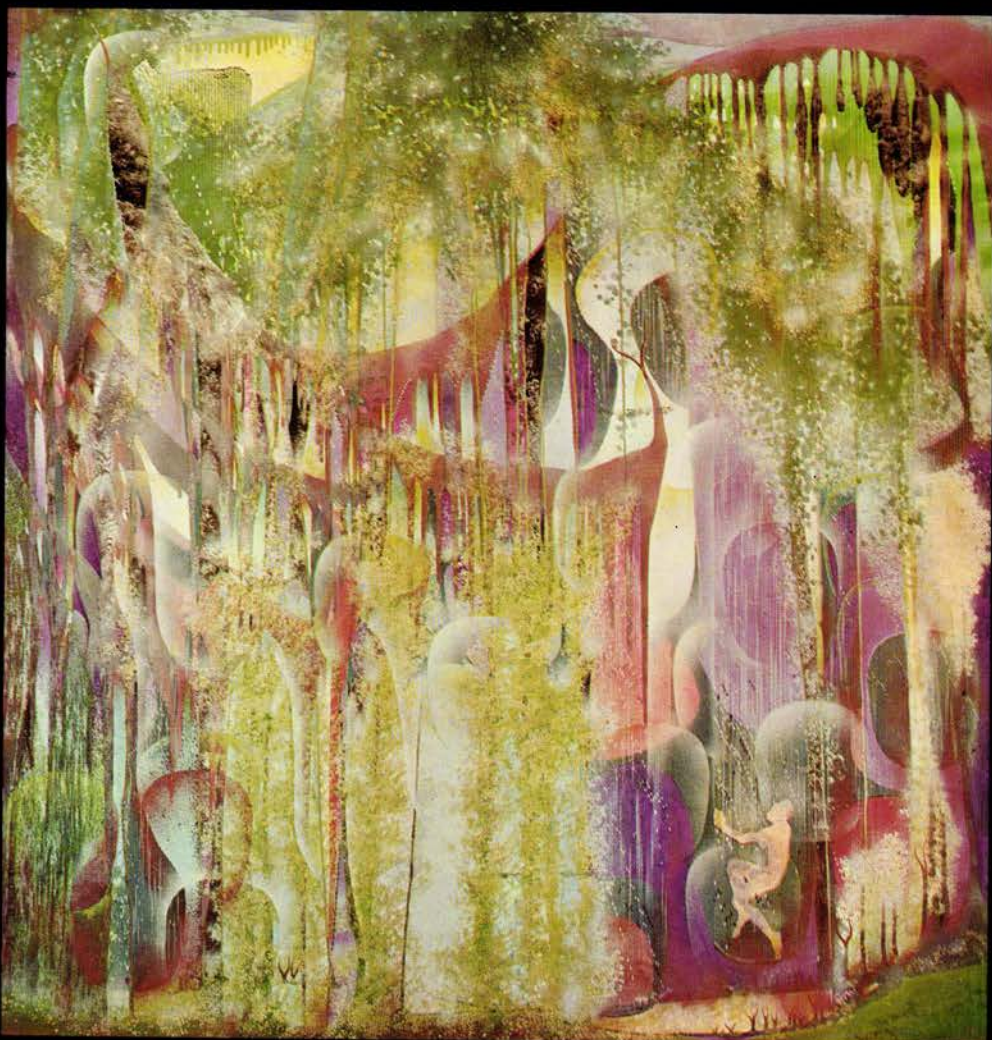
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Credit due
The Editor gratefully acknowledges the efforts of Claude Lubroth and Ross Feller for their assistance in assembling, collating and laying-out much of the material in this issue.



Above: day and evening views of the private third floor living area at Starview Farm.

Right: Painting by Bruce Goff 'An Accompaniment to Mallarmé's and Debussy's L'Après-midi d'une faune, which was commissioned by Joe Price. The painting, which is approximately 6ft square, is sandwiched between two sheets of glass.



Back cover: Joe Price House and Museum, Starview Farm, north-east Oklahoma. Shown here is the third floor level of the second addition to the original house looking west. This room is Joe Price and his wife's private living area, with the terrace doors decorated by Goff.

